

COPING AS A MEDIATOR OF THE RELATION BETWEEN
TEACHER PERCEIVED STRESS AND TEACHER-STUDENT RELATIONSHIPS

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A dissertation submitted to the faculty of the University of North Carolina at Chapel Hill in
partial fulfillment of the requirements for the degree of in the Department of Education.

Chapel Hill
2012

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ABSTRACT

JOO YEON CHON: Coping as a Mediator of the Relation between
Teacher Perceived Stress and Teacher-Student Relationships
(Under the direction of Rune Simeonsson, Ph.D.)

The present study examined the psychological characteristics of teachers related to their relationship with students. The increasing interest in teacher-student relationships in educational research is focused on steps to improve academic performance of students. Studies on teacher characteristics have shown that teacher perceived stress is a factor associated with teacher-student relationships. The purpose of this study was to investigate the role of coping as a mediating factor in the relationship between teacher perceived stress and teacher-student relationship. Structural Equation Modeling (SEM) was used to test three hypotheses: 1) teacher perceived stress will have a significant effect on teacher-student relationships; 2) teacher perceived stress will be significantly related to coping; and 3) teacher perceived stress will have a significant effect on teacher-student relationships, mediated by coping. A sample of 139 elementary school teachers in Granville County, NC, completed questionnaires on the Maslach Burnout Inventory, the Ways of Coping Questionnaire and Student-Teacher Relationship Scale. The results provided support for hypothesis 1 and 2, but no support was found for hypothesis 3, proposing coping as a mediator of stress on teacher-student relationships. Although no support was found for the mediating effect of coping on perceived stress of teachers and their relationships with students, there was an overall adequate goodness of fit of the model. The findings of teacher perceived stress and

teacher-student relationships have implications for identifying factors related to stress among teachers and steps to improve support for them in their relationships to students.

ACKNOWLEDGEMENTS

The accomplishment of this dissertation could not have been possible without God's grace and the endless support and encouragement from numerous people. Before mentioning the names of people whom I am grateful indefinitely, I would like to thank God for His mercy and love towards me. I surely have felt His presence throughout the entire process, especially during the times I was faced with obstacles. Thank you, Lord!

Next, I would like to thank my family, especially my parents. They have been nothing but the greatest supporters in my life who were loving and caring. Their unconditional love kept me going forward until this day. In addition, my cousin, Dae Won Kim, was there when I needed a friend to brainstorm and discuss my ideas.

Without a doubt, I had a wonderful dissertation committee. Dr. Simeonsson who cared so much about his students was always available when I needed insights and guidance. Dr. Ware helped me understand the Structural Equation Modeling procedures and walked me through when I brought a bunch of disorganized results. Dr. Evarrs and Dr. Meece provided accurate and insightful feedbacks which made me grow as a professional. My gratitude toward my professors is indescribable as I have so much respect. I will always remember the lessons I learned from the School Psychology program when others need my support and guidance.

TABLE OF CONTENTS

LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
CHAPTER 1: INTRODUCTION.....	1
CHAPTER 2: LIERATURE REVIEW.....	7
Teacher Perceived Stress.....	7
Teacher-Student Relationship.....	12
Teacher Perceived Stress and Teacher-Student Relationship.....	14
Coping.....	16
Teacher Perceived Stress and Coping.....	17
Teacher-Student Relationship and Coping.....	18
Hypotheses.....	21
CHAPTER 3: METHOD.....	22
Participants.....	22
Materials.....	22
Demographics.....	22
Teacher Perceived Stress.....	23
Coping.....	23
Teacher-Student Relationship.....	24
Procedures.....	25
DATA ANALYSIS.....	25

Missing Data.....	26
Sample Size.....	26
Outliers.....	27
Multivariate Normality.....	27
Linearity and Homoscedasticity.....	27
Multicollinearity.....	28
CHAPTER 4: RESULTS & HYPOTHESES TESTING.....	34
Measurement Modeling Testing.....	40
Validating Teacher Perceived Stress Measurement Model.....	40
Validating Coping Measurement Model.....	43
Validating the Teacher-Student Measurement Model.....	47
Hypotheses Testing.....	48
Hypothesis 1.....	48
Hypothesis 2.....	51
Hypothesis 3.....	54
CHAPTER 5: DISCUSSION.....	58
Overview.....	58
Global Fit Assessments.....	58
Direct Effect Models.....	60
Indirect Effect Model (Mediation Effect).....	62
Limitations	63
Implications & Future Research.....	65
REFERENCES.....	67

LIST OF TABLES

1. Demographic Information.....	35
2. Frequency and Percentage of Activity Engagement for Stress Management.....	36
3. Means, Standard Deviation, and Ranges for Observed Component Variables.....	38
4. Bivariate Correlations included in the SEM Model.....	39
5. Measurement Model Summary.....	40
6. Items with Strong Correlations.....	42
7. Items with Strong Correlations.....	45
8. Goodness of Fit Indices of the Structural Equation Model.....	49
9. Standardized Parameter Estimates for Structural Equation Model.....	51
10. Goodness of Fit Indices of the Structural Equation Model.....	52
11. Standardized Parameter Estimates for Structural Equation Model.....	54
12. Goodness of Fit Indices of the Structural Equation Model.....	55
13. Standardized Parameter Estimates for Structural Equation Model.....	57

LIST OF FIGURES

1. Expected Mediating Effect of Coping.....	21
2. A Path Diagram Illustrating a Measurement Model.....	29
3. A Path Diagram Illustrating a Structural Equation Model.....	30
4. Mediational Model.....	31
5. Indirect Effect of Teacher Perceived Stress on Teacher-Student Relationship Mediating by Coping.....	31
6. The CFA Model for Teacher Perceived Stress.....	41
7. The Measurement Model for Teacher Perceived Stress.....	43
8. The CFA Model for Coping.....	44
9. The Measurement Model for Coping.....	46
10. The CFA Model for Teacher-Student Relationship.....	47
11. Direct Effect of Teacher Perceived Stress on Teacher-Student Relationship.....	50
12. Direct Effect of Teacher Perceived Stress on Coping.....	53
13. Mediation Effect of Coping in Structural Equation Model.....	56

CHAPTER 1

INTRODUCTION

As the emphasis on education continues to increase, parents expect schools to provide multifaceted education where their children can experience success in academics and social settings outside of schools. In order to respond to current educational concerns, researchers are advocating for a multifaceted, ecological approach for the assessment of young children's developmental proficiencies at home and school (Neisworth & Bagnato, 2005).

For school psychologists, best practice requires examining children's environments in order to identify potential target areas in which evidence-based interventions can provide effective and efficient support. This type of service can occur not only at school, where children may encounter academic, behavioral, and/or emotional difficulties, but also at home. Such efforts in early childhood education are essential for developing children's executive functions such as attention, working memory (Anderson, 2002; Blair, 2002) and literacy skills (Aram, 2005) necessary for successful school life and subsequent academic success. Moreover, congruent to adult models of self-regulation, trainings enhance the management of one's own successful outcome has played a key role in improving "emotional-attributional processes" for elementary school age children through self-regulated learning. Findings indicate that, attribution and thinking skills can be influenced by social interaction, classroom structure and process (Borkowski & Muthukrishna, 1998; Brown & Campione, 1990; Kuhn, 1990).

Within the past decade, an empirical emphasis on teacher-student relationships has developed with a focus of factors related to school success from ecological perspectives (Griggs et al., 2009; Reio et al., 2009; Rudasill & Rimm-Kaufman, 2009; Garner, & Waajid, 2008; O’Conner & McCartney, 2007; Yoon, 2002; Hughes et al., 2001; Birch & Ladd, 1998). Although there is an emerging body of research addressing teacher-student relationships, little is known about the influence of teachers’ personal characteristics on students’ social, emotional, and academic growth. For example, a teacher’s positive methods of stress management or coping are likely to impact that teacher’s ability to serve as a secure base for students. Nonetheless, many studies emphasize the importance of studying teacher-student relationships from the students’ perspectives; it is less common to examine those of the teachers, even though the significance of teachers in children’s academic and psychological development cannot be refuted.

Teachers are not just individuals who deliver academic knowledge to students, but are also expected to inspire students by sharing a passion for learning. It is, unfortunately, only sometimes acknowledged that teachers provide students with much more than teaching the required academic curriculum at school. Teachers in elementary schools guide their students to develop competencies and skills in oral and written expression, computer technology, science, math, and in acquiring and refining self-regulation skills. Competent and confident teachers inspire their students so they can build a sense of anticipation and enthusiasm in learning. Unfortunately, current teacher training mainly focuses on selected areas in the teaching profession such as curriculum development, teaching strategies, and classroom management, but not stress management. When teachers are stressed from their workload or become emotionally exhausted, they may

begin to wonder about changing to a different working environment or even their career. This may be true for teachers who are energetic and passionate, and perhaps young. Many young teachers who have new ideas or the teaching skills to deliver class materials more efficiently may choose to leave their career due to unmanaged stress.

Despite significant efforts by schools and the education field to maintain the number of qualified teachers, the rate of teacher turnover is showing a gradual increase. As a result, considerable energy has been spent to explore the phenomenon of teacher burnout in the last ten years (Maslach, Jackson, & Leiter, 1996; Schaufeli, Leiter, & Maslach, 2008). Although some changes have occurred in teacher training and school administration, teachers continue to experience considerable stress, which leads to a propensity to ‘burnout.’ According to the Alliance for Excellent Education (2005), North Carolina is ranked among top five states for teacher transfer both within and to other schools. Over 8% of North Carolina teachers, excluding retirement, leave their career every year, and 10.3% of North Carolina teachers transfer schools every year. The total cost to North Carolina for replacing teachers who leave or transfer is \$188 million; over \$1 million every school day. This raises a question as to whether there are opportunities during the training of teachers to teach them how to manage their psychological distress and help them learn healthy ways to resolve stress.

Not surprisingly, the emotional aspects of teachers’ lives are seldom mentioned in educational research field. In fact, teachers’ emotions are rarely mentioned in the five chapters of the current *Handbook of Research on Teaching* (Richardson, 2001) and are only covered in two chapters in the *Handbook of Research on Teacher Education* (Sikula et al., 1996).

Teacher behaviors related to social and emotional competence are associated with an optimal social/emotional classroom climate, and desired student outcomes. An optimal classroom climate is characterized by low levels of conflict and disruptive behavior, smooth transitions from one type of activity to another, appropriate expressions of emotion, respectful communication and problem solving, strong interest and focus on task, and supportiveness and responsiveness to individual differences and students' needs (La Paro & Pianta, 2003).

When teachers lack the resources to effectively manage the social and emotional challenges within the particular context of their school and classroom, children show lower levels of on-task behavior and performance (Marzano, Marzano, & Pickering, 2003). Teachers who are experiencing emotional exhaustion can become callous and pessimistic. When this level of emotional response becomes chronic, teachers may eventually succumb to the feeling that they have little to offer or gain from their teaching, which may lead to quitting their jobs. Others may stay until retirement, without feeling rewarded or gratified, maintaining the rigid and static routines of their teaching strategies, and paid to accommodate or adjust to students, without passion to attempt contemporary teaching strategies. In either case, the social emotional challenges faced by teachers need to be addressed by examining their psychological characteristics (e.g., coping with stress) as they have direct relationships with children at school.

In the current education research field, it is a challenge to find publications which scrutinize teachers' psychological characteristics such as teacher's stress coping. Patterson and Purkey (1993) point out that none of the major reports of the 1980s, including the 1983 *A Nation at Risk* report released by the National Commission on

Excellence in Education (1983), addressed teacher personality, characteristics, personal beliefs and values. Borman et al., (2009) state that the current teacher preparation programs put emphasis on the issues of teaching efficiency, methodology, and professionalism of teachers to enhance better teaching, and less attention to their psychological characteristics. According to Sutton and Wheatley (2003), there is almost no research on the role of *emotions* in learning to teach. They further firmly emphasize the importance of examining how teachers' emotions are shaped by their temperaments, family experiences, cultural origins, and age.

There have been sporadic efforts to study characteristics of teachers' psychological well-being; however, some researchers did address this topic in research as early as the 1980's. In 1986, Blasé conducted a qualitative analysis to find the sources of teacher stress. In this study, teachers reported that stress caused by the students, including the teacher-student relationship, was the second most frequent of the major stress categories. Grayson and Alvarez (2008) also reported that one of the most predictive school climate components affecting educator cynicism was the teacher-student relationship. Some studies have acknowledged the importance of studying teacher's psychological factors such as social and emotional competence in relation to teaching and the classroom (Jennings and Greenberg, 2009; Sutton and Wheatley, 2003; Day and Leitch, 2001). In addition, when teacher is psychologically distressed, interpersonal supports (e.g. talking to others and giving each other support) was the second most used coping strategy among teachers (Lewis, 1999).

In order to study teacher-student relationships in depth from the ecological perspective, it is necessary to analyze teachers' psychological characteristics and

understand their psychological and emotional needs. While there is an extensive body of research examining the association between how teacher's cope with stress and the teacher-student relationship through the lens of children (Rudasill & Rimm-Kaufman, 2009; Rice et al., 1997; Yoon, 2002; Kesner, 2000), little effort has made to understand the relationship between stress coping and teacher-student relationship from the teachers' perspective. Among the studies examining stress management and the teacher-student relationship, some researchers further examined social competence as a related coping mechanism (Griggs et al., 2009; Rice et al., 1997). Such efforts have supported the idea that by promoting social competence, including social skills in teachers, the quality of the teacher-student relationships can be enhanced, which eventually has positive effects on children's academic and social performance

CHAPTER 2

REVIEW OF LITERATURE

Teacher Perceived Stress

In dealing with demanding workload, concerned parents, and supervisors, the level of stress builds up in teachers. However, the biggest element of stress in teachers comes from the students themselves. Teachers have to care for not only each student's academic achievements, but also their social and emotional aspects of development. Not only that, teachers have to control the students as a group, maintaining positive learning environment for the whole classroom. All the demands and expectations sometimes may be overwhelming on teachers, and the resulted stress is almost inevitable, which then may result in negative outcomes, such as retention, and turnover. Stein and Cutler (2002) defined stress as, "a total response to one's environmental demands and pressures". Furthermore, they explained that stress is an inescapable element in one's life. In 2000, Dean's article titled, "Teaching can make you sicker for longer.", and Thornton's article titled, "Depression hits hard in schools" suggested that a significant percentage of teachers suffers stress from work overload, demanding parents, and misbehaving pupils. Among the causes of stress in teachers, perceived student behavior is viewed more negatively, compared to other factors, such as excessive workload (Whiteman, Young, & Fisher, 1985). Such finding could infer that the student-teacher relationship can be negatively affected in such cases. Once stress reaches its plateau, the potential negative outcomes are anxiety, depression, and the eventual

phenomenon known as “burnout”. Burnout concerns three major components: exhaustion, depersonalization, and self-efficacy, including self-esteem (Gelder et al., 1993; Hodge et al., 1994). More specifically, teacher burnout is defined as a negative pattern of responding to stressful teaching events and conditions, to students, and to teaching as a career, as well as a perception that there is a lack of administrative support (Seidman and Zager, 1986-1987). Spaniol and Caputo (1979) described burnout into three levels: the first degree, the second degree, and the third degree. A “first degree” burnout has short-lived bouts of irritability, fatigue, worry and frustration. A “second degree” burnout has same symptoms but for a longer duration. Lastly, a “third degree” burnout occurs when such physical ailments as ulcers, chronic back pain, and migraine headache are felt. Since the early 1980s, Maslach and Jackson have gained recognition as the pioneers in developing the concept of burnout, and the subsequent inventory to measure the degree of burnout (Maslach & Jackson, 1981). The Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996) emphasizes emotional exhaustion, depersonalization, and personal accomplishment as the core dimensions (Maslach, Schaufeli, & Leiter, 2001). Emotional exhaustion refers to both emotional and physical depletion that result from stress. Common symptoms of emotional exhaustion are physical fatigue, and a sense of tedium (Wright & Cropanzano, 1998). It is often caused by work overload, and repetitive nature of job. When a teacher feels emotionally exhausted, the possible outcomes are: lower job performance, more absences, and greater likelihood of turnover (Wright & Cropanzano, 1998).

When one starts to distance oneself from others, particularly those whom one must interact with in the work environment, this phenomenon is called depersonalization (Maslach et al., 2001). For example, due to depersonalization, elementary school teachers may develop

negative, insensitive, and pessimistic attitudes toward students and the school environment. Also, teachers with a sense of depersonalization tend to isolate themselves from colleagues voluntarily. Such action can have significant impact on the classroom environment and the students, regardless of the direction of the outcome. The last component of burnout is the personal accomplishment, or self-efficacy. Teachers with burnout tend to feel a lesser sense of accomplishment, and lower self-esteem. Whereas emotional exhaustion and depersonalization are related to external variables, such as excessive work demands, and social conflicts, declined level of personal accomplishment tend to result from insufficient personal resources (Maslach et al., 2001). Teachers with a sense of low personal accomplishment are more likely to display lower self-esteem, which in turn, may create poor classroom environment. For example, when a student misbehaves in classroom, teachers with low self-esteem may blame themselves, which results in lower confidence to control students. This could revolve back into more students misbehaving, creating a poor classroom environment. Regardless of occupation, everyone has his/her own strategies to cope with stress. Teachers, of course, have their own methods to manage stress. Some of the strategies are done individually, such as exercise, devoting to religion, drinking, blaming oneself, and sleeping. Some are also done with colleagues, or friends. According to Lewis (1999), these activities involve talking to others and giving each other support; improving one's relationship with others; going to meetings; and asking professionals for help. Finally, there must be social support from the school, parents, the district school board, and the community. House and Wells (1978) wrote that frequent interactions, strong and positive feelings, and the availability of emotional and instrumental support are the fundamentals in social support.

Therefore, society should provide teachers with aid that satisfies both the instrumental aspect and the emotional aspect of social support (Caplan et al., 1975).

Although the instrumental and emotional aspects of social support are emphasized in current teacher training, there is little involvement in providing teachers guidance to manage their emotions and to learn healthy ways to resolve stress.

According to Jennings and Greenberg (2009), socially and emotionally competent teachers “set the tone” of the classroom. Such teachers would develop supportive and encouraging relationships with their students, design lessons that build on student strengths, and establish and implement behavioral guidelines in ways that promote students’ intrinsic motivation. These teachers may also coach students through conflict situations, encourage cooperation among students, and act as a role model for respectful and appropriate communication and exhibitions of prosocial behavior. In order to be a competent teacher, one would have to display high self-awareness, high social-awareness, cultural sensitivity, and exhibit prosocial values, as well as making responsible decisions based on an assessment of various factors, including how decisions may affect themselves and others.

When teachers gain mastery over these social and emotional challenges, teaching becomes more pleasant, and they feel more efficacious (Goddard, Hoy, & Woolfolk, 2004). Unfortunately, when teachers are encouraged to attend workshops on topics such as curriculum development, or effective teaching strategies, they have little opportunity to receive specific training on the importance of social and emotional issues in the classroom, and how to develop the social/emotional competence to successfully manage them (Hargreaves, 1998).

On the other hand, “highly” anxious teachers are differentially effective with “high” anxious and “low” anxious students (Osborne, 1975). Students with a high level of anxiety displayed poorer results on a spelling test than students with a lower level of anxiety. Similarly, Petrusich (1966) found that teachers with high anxiety tend to give less verbal reinforcement to students and such teachers were more likely to have disruptive behaviors in classrooms.

Although the concept of teacher burnout has been recognized for decades, there hasn’t been a definite solution to prevent teachers from experiencing burnout. This is due to the fact that the focus in previous literature on burnout was in workplace conditions: poor communications, lack of job role specification, and layoffs, to name a few (Zellars, Hochwarter & Perrew, 2004). In education, on the other hand, there has been lack of studies on teacher burnout based on intra- and interpersonal factors.

One of the most important interpersonal relationships a teacher has is the one with students. For example, the daily schedule of an elementary school teacher indicates that an average of 6 to 7 hours is spent with students every day. This means that a teacher spends more time with a given child on a school day than anyone else in the child’s life. While spending so many hours with students, teachers are bound to experience stress, which could lead to eventual burnout. If a teacher has no knowledge in how to manage stress, or participate in coping activities, not only may it affect the teacher’s personal well-being, but also the students’ behavior and development.

Teacher-Student Relationship

Teacher-student relationships are significant for children's development and readiness in the early years of school. This particular relationship is dynamic and reciprocal and information is continuously exchanged between student and teacher through interactions. Although academic support is important, positive relationships with teachers include students' perceptions of their teachers as available not only for purely academic issues, but also for more social and emotional problems.

According to Baker (1999), many studies of teacher-student relationships are built on attachment theory (Bowlby, 1982). According to the attachment theory, children use social relationships with caregivers to construct views about themselves and the aspects of the social environment. Through social interaction, children are able to build schema, internal working models, and further shape their behaviors. These social representations are applied to the school setting where students utilize social knowledge and skills to be ready to learn and develop relationships (Howes & Hamilton, 1992; Pianta & Steinberg, 1992). Unfortunately, the hierarchy of power, legalities, and the uneven nature of responsibilities between the teacher and the students can interfere with building a proper 'working relationship' (Riley, 2009).

In this teacher-student relationship, the teacher needs to form a working relationship with at least one student to maintain a professional role as a teacher. This professional identity cannot exist without interpersonal relationships between the teacher and the student at school. In addition, as teachers spend numerous hours with students every day, they involuntarily fulfill the role of caregiver at school, based on their maturity, experience, knowledge, the level of competence and responsibilities for the legal and ethical obligations.

Therefore, within an ecological perspective, the role of the teacher is a significant factor in the teacher-student relationship with current literature focusing mainly on attributional and psychosocial aspects of students. Studies concerned with psychosocial factors of teachers have been scarce. Since the relationships with significant adults (e.g., teachers) are fundamental for children's intellectual, social, and emotional growth (Pianta, 1999), it is essential to consider how teacher's psychosocial well-being affects children's development ultimately.

There is substantial research supporting the importance of teacher-student relationships in predicting school-related outcomes and consistent evidence that positive teacher-student relationships are associated with desirable outcomes (Davies, 2003; Hamre & Pianta, 2001; Howes, Hamilton & Matheson, 1994; Hughes, Cavell, & Willson, 2001; Pianta & Stuhlman, 2004). Close relationships with teachers predict student's healthy socio-emotional development (Pianta, 1999) as well as adjustment to (Birch & Ladd, 1997; Ladd, Birch, & Buhs, 1999), and success in, school (Hamre & Pianta, 2006). Negative teacher-student relationships are linked consistently to a variety of adverse student outcomes: behavioral problems (Pianta, Steinberg, & Rollins, 1995), dislike for and avoidance of school (Birch & Ladd, 1997), adjustment problems (Pianta, Nimetz, & Bennett, 1997), and less developed concept knowledge (Pianta et al., 1995). Dependent relationships of children on teachers have been linked to student outcomes of poor academic performance, negative attitudes toward school, less positive engagement with the school environment (Birch & Ladd, 1997), and undesirable classroom behaviors (Pianta & Nimetz, 1991). Further, children experiencing conflictual and dependent relationships with teachers tend to exhibit poorer academic performance than those in less conflictual and dependent relationships (DiLalla et al., 2004).

According to Birch and Ladd (1997), children with a conflictual relationship with their teachers may have tendency to under-rely on the relationships as a source of support. These difficulties can result in negative effects, such as anger or anxiety, in children's psychological development. These outcomes could cause children's withdrawal from school activities (e.g., become disengaged or uninvolved) or promote feelings of isolation, such as loneliness, and dissonance.

Teacher Perceived Stress and Teacher-Student Relationship

In order to scrutinize the relationship between teacher perceived stress and teacher-student relationships, there is a need to study each variable separately, and extensively. This research approach is essential for studying this particular relationship because it will give provide a detailed understanding of each domain. Research that studies the interactions between the two domains in detail is very scarce. In contrast, one domain such as teacher stress leading to burnout phenomenon that has been extensively investigated for at least a few decades (See Schaufeli, Leiter, & Maslach, 2008, for review).

In a study implementing a teacher-student relationship program as a five-month intervention (Murray and Malmgren. 2005), found that the program had an effect on students' social, emotional, and academic adjustment in school. High school students who had participated in the intervention earned higher Grade Point Averages (GPA) than the students in the control group. Hamre and Pianta (2001) also looked at the relationship between teacher-student relationships and school outcomes. Their results indicated that early teacher-child relationships served as significant predictors for academic and behavioral outcomes for early elementary school students. In addition, relational negativity, a combination of conflict

and dependency, served as a strong predictor for further behavioral outcomes of students at a later age.

Yoon (2002) emphasized the importance of studying teacher characteristics and investigated whether psychological characteristics (e.g., stress, negative affect, and self-efficacy) predicted the quality of teacher-student relationships. As teacher-student relationships significantly influence various domains, studies observing the formation of such relationships and the qualities required to build the elements of strong, positive, nurturing relationships are of great importance for intervention. In this study, 113 elementary (K-5th) teachers in a metropolitan area in the United States responded to a questionnaire on teacher stress, self-efficacy in relationship building and behavioral management, negative affect, and student-teacher relationships. The results indicated that although significant correlations were present between teacher stress and negative relationships, teacher stress, was not a significant predictor for student-teacher relationships. It may be that regardless of the level of teacher stress, other measures, such as the teacher's empathy with students, specific interaction styles, and communication styles are more critical in forming and maintaining positive relationships.

In another study by Kesner (2000), examining the association of teacher characteristics (e.g., relationship history, ethnicity, gender) and the quality of teacher-student relationships, findings indicated that teachers' perceived attachment history was a significant predictor of the quality of the teacher-student relationships. In addition, there are ethnic and gender differences in the perceptions of teacher-student relationships.

From the way an individual deals with stress (e.g., exercise, sleeping) to the ways that people do together as a group (e.g., giving each other support, asking professionals for help),

the bottom line is that persons including teachers seek ways to cope with their stress. Until now, variables such as interpersonal support (Lewis, 1999) or spirituality (Kang, 2008) have been studied in teachers in relation to coping as they have a mediating effect on attitude and individual psychological well-being and furthermore, their relationships to their students. How teachers cope is, therefore, an important element to examine in regards to teacher-student relationships which have positive associations with students' improvements at school (Davies, 2003; Hamre & Pianta, 2001; Howes, Hamilton, & Matheson, 1994; Hughes, Cavell, & Willson, 2001; Pianta & Stuhlman, 2004).

Coping

In association with stress, coping has been an important component to measure as it can mitigate a person's distress in a stressful event (Lazarus & Folkman, 1984). The transactional model of stress and emotion, TMSE, (Lazarus & Folkman, 1984) has been offered as a framework for evaluating the coping process when a stressful event arises. Stressful experiences are considered person-environment transactions, and these transactions depend on the impact of the external stressor. This process is mediated by both the appraisal of the stressor and the social and cultural resources at one's disposal (Lazarus & Cohen, 1977; Somhlaba & Wait, 2009; Trouillet, Gana, Lourel, & Fort, 2009).

According to Lazarus and Folkman (1984), when faced with a given event, an individual initiates a process of appraisal regardless of whether the situation is stressful or favorable, depending on the individual and the situation. Then, the individual takes the next step which is a process of secondary appraisal. During this process, the person goes through the cognitive evaluation by examining his or her personal and environmental resources to

cope with the stressful event. Therefore, it can be summarized that primary appraisal refers to the evaluations of the characteristics of the event, whereas secondary appraisal refers to assessment of one's competencies to deal with the stressful situation. While an individual experiences both cognitive processes, each one will generate a theoretical model which then be used to select cognitive and behavioral strategies which are defined as problem-solving coping and emotional-solving coping (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). When the individual acknowledges the stressful situation as changeable, problem-focused coping is often used and when the situation is beyond his or her competencies to control the situation, emotion-focused coping is used.

For example, when a teacher has a difficulty with a student's disruptive behavior in the classroom due to a conflict in the teacher-student relationship (e.g., disobedience), the teacher will initially acknowledge the event as stressful, then, he/she will figure out ways to cope with the situation. The teacher may try to talk to the student directly to resolve the issue, or may seek support from colleagues or professionals (e.g., school psychologists or school counselors). If the teacher decides that the situation is unchangeable or is in beyond his/her competencies to change, then, she/he may choose emotion-focused coping strategies such as exercising, reading, or socializing with others to release the stress. In any ways, coping would play a role of mediating factors between stressors and outcomes (Lazarus, 1966).

Teacher Perceived Stress and Coping

Coping as Mediator

In the past, many researchers have examined the effect of psychological factors (e.g., social competence or social efficacy) as coping mechanisms and analyzed its role as a

mediator (Gullotta et al., 1990; Bandura, 1977, 1997; Sherer & Adams, 1983; Gecas, 1989; Mallinckrodt, 2000; Bierman & Welsh, 2000; Steinberg, 1998; Mallinckrodt, 2001).

In a more recent study, using structural equation modeling, Wang (2009) examined the association among school climate variables, social competence, and behavioral and psychological adjustments of middle school students. That social competence has a mediator role was supported in testing the structural model, specifically, students with positive school perception had significantly better behavioral and psychological adjustment in the next academic grade when their social competence was considered as a mediator. The adolescents, who were reported as being socially competent, appeared to better manage negative emotions and possess healthier social skills. Although the relationships from student's perspective in this study extend earlier findings, there is a general lack of information and research on the teachers' perspective of the relationship.

Chan (1998) points out that evidence of stress reactions, including ill-health and psychological distress, are not solely the result of external stressors but are also determined by a host of mediating variables, many of which are generally collected under the umbrella term coping mechanism (Lazarus & Folkman, 1984; Scheier & Carver, 1985).

Teacher-Student Relationship and Coping

A large body of research on teacher-student relationships and coping (e.g., social competence) suggest that teacher-student relationship patterns are associated with social, emotional, and school-related adjustment and functioning (Baker, 1999; Goodenow, 1993; Hamre & Pianta, 2001; Ladd, Birch, & Buhs, 1999; Murray & Murray, 2004; Pianta & Steinberg, 1992; Radke-Yarrow & Brown, 1993; Reddy, Rhodes, & Mulhall, 2003).

Furthermore, students with emotional and behavioral problems have a likelihood of experiencing poor teacher-student relationships (Murray & Greenberg, 2001; Murray & Murray, 2004). On the other hand, conflicts in early teacher-student relationships are strongly associated with the long-term outcomes of children who are experiencing behavioral problems than children who are not at risk (Hamre & Pianta, 2001).

Baker et al. (2008) looked at how teacher-student relationships affect students at risk for poor school adaptation. Their study suggested that the teacher-student relationship had a significant effect on positive school adjustment for elementary-aged children. Having a teacher relationship characterized by warmth, trust and a low degree of conflict was associated with positive school outcomes. This finding is consistent with results of the study by Hamre and Pianta (2001).

When a number of studies provide empirical support for the effects teacher-student relationships have on children's coping (e.g., social competence), questions can be raised as to what factors influence the teacher-student relationship. For example, Birch and Ladd (1998) conducted a longitudinal study which examined the association between kindergarteners' behavioral orientations and the characteristics of their teacher-student relationships. The students' antisocial behaviors (e.g., aggression and hyperactivity) were associated with higher levels of conflict and lower levels of closeness in teacher-student relationships. Moreover, conflict in the kindergarten teacher-child relationship was associated with decreased prosocial behavior through first grade.

Recently, Rudasill and Rimm-Kaufman (2009) looked at how child temperament (e.g., shyness, effortful control) and gender both directly and indirectly affect teacher-student relationship quality through the frequency of teacher-student interactions in the classroom.

The results showed that the child temperament and gender directly related to teacher-student interactions. Both student shyness and effortful control contributed to the frequency of teacher-student contacts in the classroom.

Despite converging empirical support for the role of children's psychological characteristics and traits and their effects on teacher-student relationships, the development of studies that examine the psychological characteristics and traits of teachers on the relationships is in a very early stage. Considering close relationships of perceived stress and coping of teachers on teacher-student relationships with elementary school children, relationship patterns should be examined. It would be useful to conduct a study to examine the relationships in adults, as the results may not only be supportive of the individual teachers, but also the students who are maintaining daily interpersonal relationships with their teachers.

In summary, many researchers have examined the teacher-student relationships from an ecological perspective and found effective ways to support students at school. Research, however has failed to address psychological experiences of teachers which may contribute to burnout and high turnover rates among teachers. The purpose of this study is to examine the role of coping in mediating the relationship between perceived stress by the teacher and teacher-student relationships (Figure 1). The following hypotheses are proposed to test the role of coping as a mediator in a model of teacher perceived stress and the teacher-student relationship.

Hypotheses

- 1) Teacher perceived stress will have a significant effect on teacher-student relationship.
- 2) Teacher perceived stress will have a significant effect on coping.
- 3) Teacher perceived stress will have a significant effect on teacher-student relationship, mediated by coping.

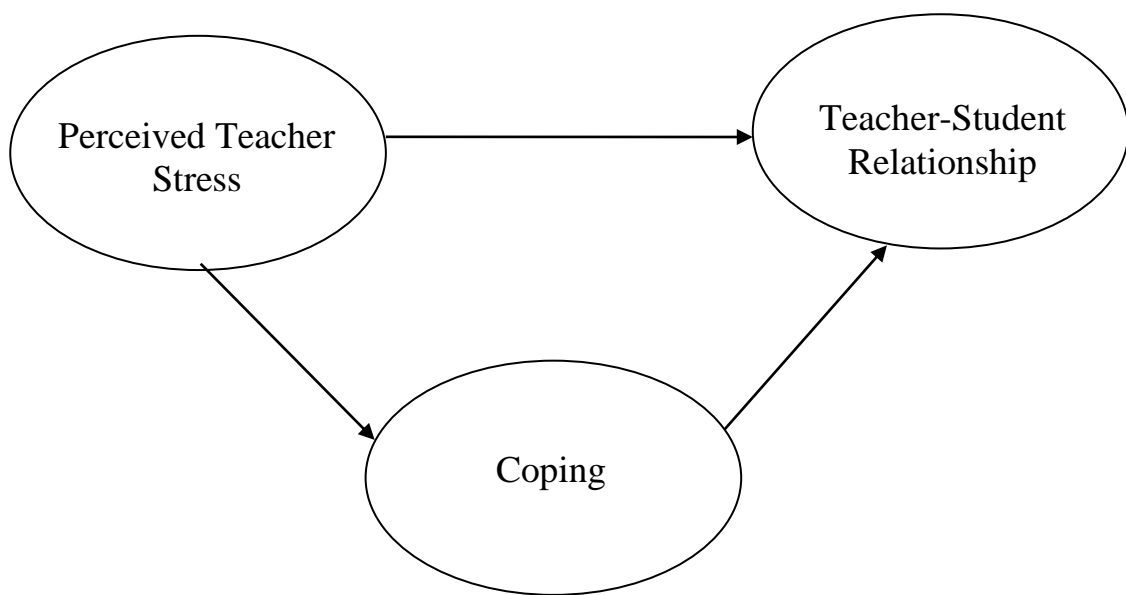


Figure 1. Expected mediating effect of coping.

CHAPTER 3

METHOD

Participants

The study protocols were submitted for review and approval obtained by the University of North Carolina at Chapel Hill Institutional Review Board (IRBIS) prior to initiation of the study. A total of 220 questionnaire packets were distributed to 8 elementary schools in Granville County, NC, to be completed by teachers. Of those 174 were completed and returned for a return rate of 79%. Of the 174 returned questionnaires, 35 cases were excluded from the data analysis. Of the 35 questionnaires, 24 cases contained more than 43% of responding items left blank. In addition, the extra 11 cases displayed an unusual responding pattern (e.g., 222222222, etc.) in which the aberration of the result was suspected. Therefore, a total of 139 questionnaires were used for analysis. Prior to data analysis, data were screened for missing data and out of range values.

Materials

Demographics

Demographic data were collected on teacher gender, age, marital status, race, education level, total years teaching, and total years of teaching in the current school. Descriptive analysis examined the distribution of the demographic variables. In the demographic information enhanced understanding of the participants in this study, but, were

not included as variables in the Structural Equation Modeling (SEM). The questionnaire packet consisted of four separate measures; the Maslach Burnout Inventory, the Ways of Coping Questionnaire, the Stress Management Questionnaire, and the Student-Teacher Relationship Scale.

Teacher Perceived Stress

The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986) is a 22-item, self-reported questionnaire structured to measure occupational stress in teaching professionals on a seven point scale (0 = “feeling has never been experienced” to 6 = “feeling is experienced daily”). It is constructed to measure three dimensions which are Emotional Exhaustion (EE, 9 items), Depersonalization (DP, 5 items), and Personal Accomplishment (PA, 8 items). The EE dimension measures feelings of weariness and being consumed as a result of excessive psychological demands from occupation. The DP dimension assesses the teacher’s level of dehumanization and negative attitudes toward students, and the PA dimension involves job satisfaction, success, and competence. Studies have reported moderately strong reliability with alpha coefficients ranging from .52 to .91 (Iwanicki & Schwab, 1981; Maslach & Jackson, 1981b; Pierce & Molloy, 1989). The internal consistency index of reliability ranged from .77 to .90 for elementary school teachers (Byrne, 1993).

Coping

The Ways of Coping Questionnaire (WCQ; Folkman & Lazarus, 1988) measures the style of coping strategies of teachers in eight dimensions across a total of 66 items. The instruction given at the beginning of the questionnaire ask the teacher to think about the most

stressful events experienced in the past week and respond on a 4-point Likert-type (0 = “does not apply or used” to 3 = “used a great deal”). Unlike the original two scales (problem-focused and emotion-focused) which did not reflect the complexity of the coping process, the current version contains eight types of coping based on empirical analyses. Therefore, the WCQ consists of (a) Confrontive Coping, (b) Distancing, (c) Self-Controlling, (d) Seeking Social Support, (e) Accepting Responsibility, (f) Escape-Avoidance, (g) Planful Problem-Solving, and (h) Positive Reappraisal. The WCQ internal consistency reliability ranged from .61 to .84 (White et al., 1992; Wagner et al., 2006). In addition, the Stress Management Questionnaire (SMQ; Stein and Cutler, 2002), a 48 dichotomous survey, was used to assess ‘Activity Engagement’ to find out what activities helped the teachers to deal with stress. The SMQ includes coping strategies such as the use of exercise or relaxation which are not mentioned in the WCQ questionnaire. The internal consistency ranges from .85 to .89 (Stein, 1986). For the SMQ scale, the alpha coefficient of .93 is yield.

Teacher-Student Relationships

Student-Teacher Relationship Scale (STRS; Pianta, 1992) is a 15-item, teacher-reported measure of Closeness and Conflict between child and teacher. The conceptual foundation for items is attachment theory and the Attachment Q-Set (Waters & Deane, 1985). Using a 5-point Likert-type (1 = “definitely does not apply” to 5 = “definitely applies”), teachers are asked to rate how applicable each statement is to their current relationship with a particular child. The internal consistency of each subscale (Cronbach’s Alpha) ranges from .88 to .94 in the original version (Pianta, 1992). Since the interest of this study was to

examine the teacher's general view of teacher-student relationships, rather than a specific student, the scale was modified accordingly with permission from the author.

Procedures

The questionnaire, included four published scales, was distributed to eight elementary schools in Granville County, NC. After obtaining approval from superintendents and principals the researcher visited the school to collect the data. There was a short introduction to the study in a handout distributed to the teachers which contained information about the study. After a walk-through of the handout, the researcher distributed the survey. Teachers who wished to participate in the study completed the survey in two ways. One option was completing the survey and returning it in a plain, sealed envelope. The second option was completing it at their convenience and returning it in a stamped, self-addressed envelope. No personal identifiers including names appeared on any forms.

DATA ANALYSIS

Structural Equation Model (SEM) requires data preparation and screening procedure to satisfy several assumptions for valid interpretation of the data (Kline, 2005). SPSS 15.0 is used to compute descriptive and preliminary analyses regarding missing data, sample size, outliers, multivariate normality, linearity, homoscedasticity, and multicollinearity accordingly.

1. Missing Data

Missing data can cause problems in multivariate statistical analysis (Allison, 2003). Therefore, all the cases with missing values were excluded from the further analyses, with 139 cases remaining in the data set. In addition, the maximum likelihood method in AMOS is used for handling missing data at random (MAR) as it is known for its efficiency and being less biased (Worthke, 2000).

2. Sample Size

For sample size, the rule has been “more the better” in many years. Previously, it is recommended that a data set has at least 100 or desirably 200 cases would be appropriate for data analyses (Hoyle, 1995; Loehlin, 2004). Another rule was to have a minimum ratio of 5 cases for each estimated parameter, with 10:1 as more appropriate, and 20:1 as desirable (Kline, 2005). Anderson & Gerbing (1991) found that as number of variables per factor increased, or as the number of factors in the model increased, fit indices were generally affected negatively. In a more recent study by Iacobucci (2010), the researcher recommends a sample size of at least 50.

In this study, a total of 174 questionnaires were collected and 139 were used in the data analyses after excluding 35 cases due to missing values. This meets the general recommendation by Hoyle (1995) and Loehlin (2004) ($100 < n < 200$). In addition, the sample size in this study satisfies the ratio of number of cases for each estimated parameter: Hypothesis 1 = 13:1, Hypothesis 2 = 5.79:1 and Hypothesis 3 = 4.63:1 (Kline, 2005).

3. Outliers

Outliers are atypical cases that are uniquely different from other cases either for a single variable or combination of variables (Kline, 2005). In this study, several cases were detected as outliers, however, the results were not more representative of the data when descriptive analyses were repeated without those cases. Therefore, they remained in the final data set for further analyses.

4. Multivariate Normality

For SEM analyses, multivariate normality is a particularly important assumption to be met. Each indicator should be normally distributed for each value of the indicators (Garson, 2007). A common way to detect unusual cases with multivariate normality is to examine the skewedness and kurtosis statistics. Those values are recommended to be between +2 to -2 for normal distribution at p -value of .05 level (Garson, 2007). In this study, all indicators fell within the recommended range. In addition, histogram and normal Q-Q plot were used for visual inspection to detect any unusual cases with multivariate normality problems, and suggested a normal distribution for indicators in the data set.

5. Linearity and Homoscedasticity

Scatterplot matrices were used to scrutinize any evidence of nonlinearity and identify the need for transformation of the data. Only limited nonlinearity was detected and no transformation (e.g., log, squared, square root, and inverse) was associated with any significant improvement in the relationships between variables, therefore, no cases were excluded.

Next, homoscedasticity, examining the homogeneity of variance of independent variables on the dependent variables, was inspected through the scatterplot matrices (Hair et al., 1998). There was no visual evidence of homoscedasticity being violated. Levene's test which had significance values greater than .05 also suggested the following assumption was met.

6. Multicollinearity

Multicollinearity can be a problem when multiple scales are used to measure the same construct (Keith, 2006). This can be detected when the intercorrelation between variables are above .85 or .90 (Garson, 2007). In this study, the highest intercorrelation between indicators was .51 (Planful Problem Solving & Positive Reappraisal), therefore, the assumption was met. Among many different computer programs for SEM, AMOS 7.0 was used to perform the Confirmatory Factor Analyses (CFAs) using the maximum likelihood estimation method. In SEM graphics, circles or ovals represent latent variables and boxes represent measured variables. Error terms for the measured variables are represented by "e", and disturbance or residuals for the endogenous variables are represented "d". Single-headed arrows represent path coefficients and double-headed arrows represent correlations or covariance.

Confirmatory factor analyses (CFAs) were run to validate the factor structure for an appropriate structural model. The Structural Equation Modeling (SEM) procedures were used to test proposed hypotheses in this study. SEM is comprised of two models which are the measurement model and the structural equation model. Initially, the relations between a set measured (or observed) variables and latent (unobserved) variables are examined. For example, the measurement model for the perceived teacher's stress, a latent variable, was

measured by 22 survey items (e.g., observed measures) that asked different aspects of stress that each teacher experienced in life.

Next, through factor analysis, 22 survey items were clustered by categories of dimensions (e.g., Emotional Exhaustion, Depersonalization, or Personal Accomplishment). Then, in a measurement model, the items were clustered by how the observed variables (e.g., EE, DP, and PA) adequately measured the corresponding latent variable (e.g., Perceived Teacher's Stress).

In a measurement model (Figure 2), the oval represents a latent variable (e.g., teacher's perceived stress) and boxes represent observed variables (e.g., indicators of factors such as Emotional Exhaustion, Depersonalization, or Personal Accomplishment), and small circles represent measurement errors. This procedure tests whether they are adequate observed measures of the corresponding latent variables. This is important because the accuracy of the measurement models affects the structural models and can determine how valid the interpretations are of the results produced by SEM (Joreskog, 1993).

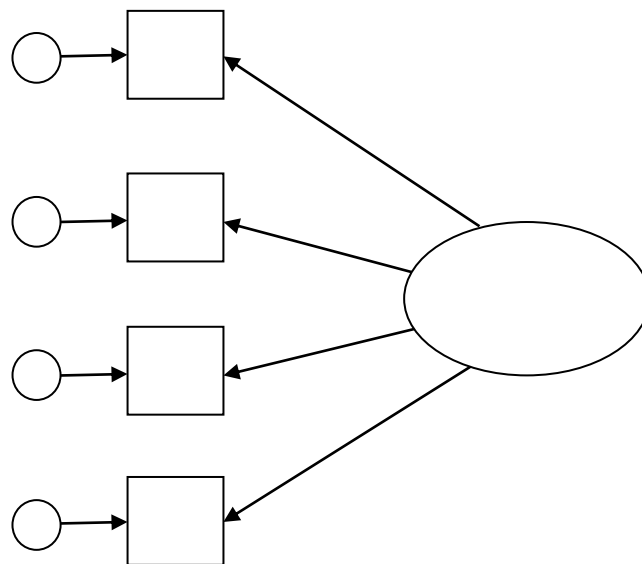


Figure 2. A path diagram illustrating a measurement model.

The most desirable application of SEM which includes both a measurement and a structural model is presented in Figure 3. Single-headed arrows represent path coefficients. In this model, both measurement and structural model are estimated simultaneously and the direct effect is evaluated. In this study, hypothesis 1 and 2 were tested by examining the direct effect represented in Figure 3.

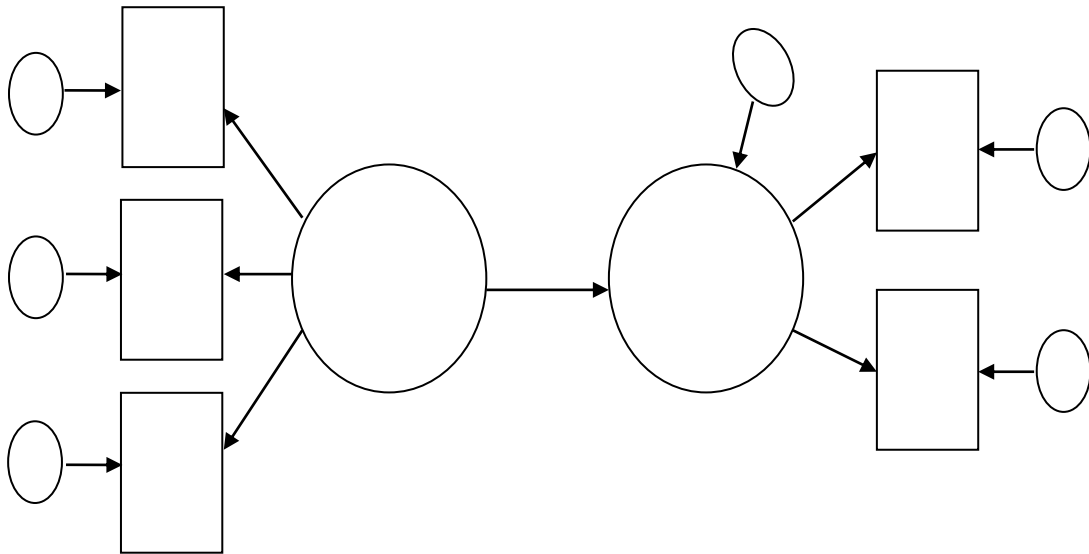


Figure 3. A path diagram illustrating a structural equation model.

Hypothesis 3 was tested through a mediational model (Figure 4). According to Hoyle (1995), if the indirect effect of the independent variable through the mediator is significant and there is a decline in the direct effect (e.g., path coefficient becomes close to 0), then the conditions for the mediational hypothesis is supported. In this study, in order to test the mediational model, a path from teacher's perceived stress to teacher-student

relationship, a path from teacher's perceived stress to coping, and from coping to teacher-student relationship are analyzed (Figure 5).

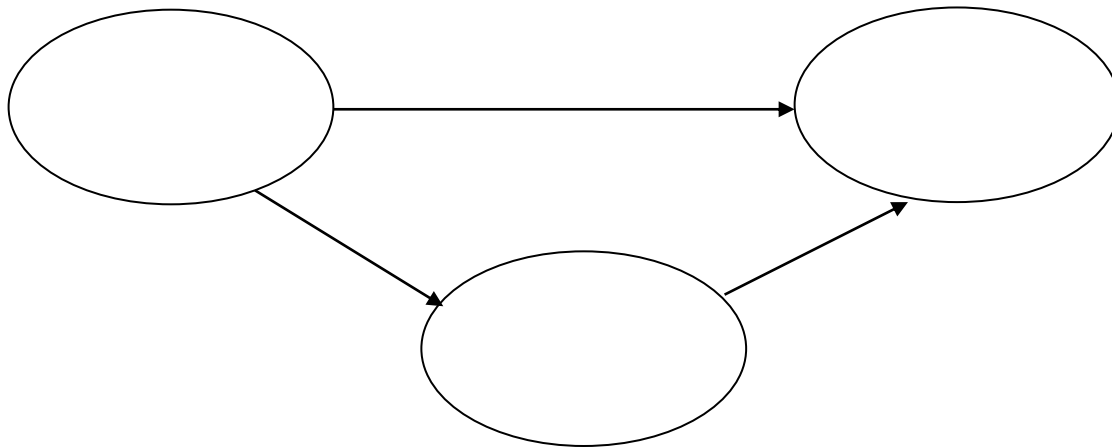


Figure 4. Meditational model.

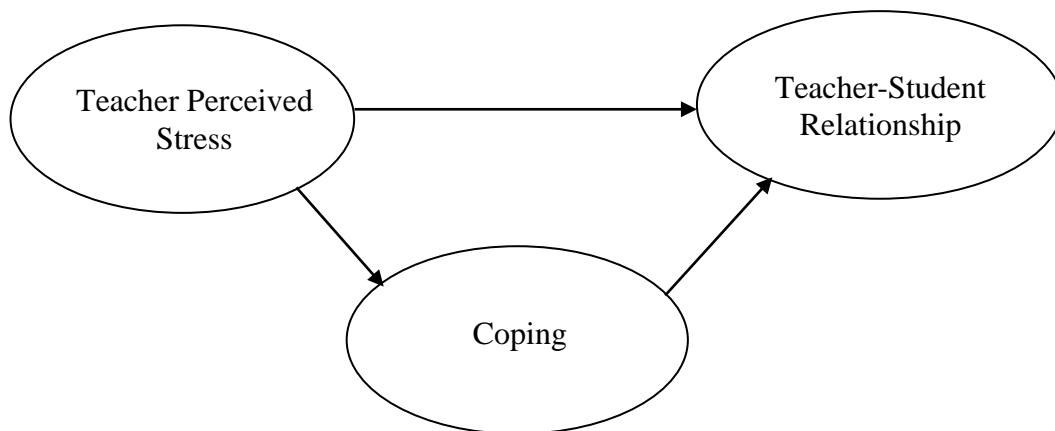


Figure 5. Indirect effect of teacher perceived stress on teacher-student relationship mediated by coping.

Compared to the older generation of multivariate procedures (e.g., multiple regression), SEM has several advantages (Byrne, 2001). First, SEM analysis allows taking a

confirmatory approach to the data analysis and it can specifically examine the pattern of intervariable relations, which fits the purpose of the inferential analyses. It can also concurrently estimate the effect on the multiple dependent variables including testing for potential mediators in a single model. Second, when traditional multivariate procedures are unable to control or correct for measurement error, explicit estimates of these error variance parameters can be computed through SEM. Third, SEM procedures not only integrates observed variables, but also unobserved (e.g., latent) variables when data are analyzed. Lastly, SEM examines multivariate relations which are direct or indirect, or sometimes both effects of one variable on another.

Several indices can be used to evaluate how good the statistically proposed models are in this study. First, the chi-square value, degrees of freedom, and corresponding p value are listed. Chi-square is a measure of overall fit of the model to the data and is a badness-of-fit measure in the sense that a small chi-square with a high p value indicates a good fit (Joreskog et al., 1993). The chi-square ratio to degrees of freedom should not be significant indicating that the implied covariance is not different from the observed data set. However, chi-square is very sensitive to sample size including Type I and II errors; almost any model tends to be rejected if the sample size is large enough (Gerbing & Anderson, 1984, 1985). Therefore, it is recommended that the chi-square statistic be used as a descriptive index of fit rather than as a statistical test (Stevens, 1996).

There are other fit indices that look at how well-fitted measurement or structural models are. First, the Goodness of Fit Index (GFI) measures how better the theoretical model fits as compared to no model at all (Joreskog et al., 1993). Normed Fit Index (NFI) measures how better the tested model fits as compared to the independence model which has the

maximum number of constraints and consequently has minimum fit (Blunch, 2008, p114). Although GFI and NFI have often been used for standard fit indices, it has been found that they tend to underestimate the fit in small samples. As a result, Comparative Fit Index (CFI) has been used which includes the degrees of freedom into its computation as CFI is robust to sample sizes (Bentler, 1990). The above indices take on values in the 0 to 1.00 interval and values close to 1.00 indicate a well-fitted model. Root Mean Square Error of Approximation (RMSEA) is another important absolute measure of fit index which is based on the non-centrality parameter. It is recommended that 0.01, 0.05, and 0.08 to indicate excellent, good, and mediocre fit respectively (MacCallum et al., 1996). In this study, in order to reduce sample size biases, in addition to the overall fit assessment of the model, RMSEA, GFI, and CFI are reported.

CHAPTER 4

RESULT

Descriptive statistics were calculated for participant demographics (Table 1). About 75% of respondents were within the range of 30 – 59 years of age. There were 132 female teachers and 7 male teachers in this study. The mean length of teaching in the schools was 14.27 ($SD = 9.24$) years. Among respondents, 73% of the teachers were married and the most of the questionnaires were completed by Caucasians, with 14 % completed by African Americans.

Table 1

Demographic information (n = 139)

Variable	Frequency	Mean	Percent (%)	SD
Age (years)				
60 or more	5		3.6	
50 – 59	30		21.7	
40 – 49	41		29.7	
30 – 39	32		23.2	
25 – 29	22		15.9	
24 or under	8		5.8	
Gender				
Male	7		5	
Female	132		95	
Marital Status				
Married	100		73	
Separated	4		2.9	
Divorced	9		6.6	
Widowed	1		.7	
Never Married	23		16.8	
Teaching Years		14.27		9.24
Race/Ethnicity				
American Indian/Alaska Native	1		.7	
African American	19		13.8	

The most frequent activities for stress management reported by teachers in this study were, relaxing (lying down) (87.8%), being by myself (87.1%), being busy (85.6%), listening to music (84.9%), analyzing the situation (84.2%), and watching TV (84.2%). Table 2 presents the frequency and percentage of activities reported by teachers to release stress.

Table 2

Frequency and Percentage of Activity Engagement for Stress Management

Activity	Frequency (%)	Activity	Frequency (%)
1. Analyzing the situation	117 (84.2)	25. Needlecraft	11 (7.9)
2. Avoiding the situation	54 (38.8)	26. Painting	13 (9.4)
3. Being active in social club	44 (31.7)	27. Playing musical instrument	12 (8.6)
4. Baking	61 (43.9)	28. Preparing for school/work	60 (43.2)
5. Being by myself	121 (87.1)	29. Reading for pleasure	103 (74.1)
6. Being busy	119 (85.6)	30. Relaxing (lie down)	122 (87.8)
7. Bicycling	19 (13.7)	31. Running long distance	16 (11.5)
8. Cleaning house	86 (61.9)	32. Screaming	27 (19.4)
9. Cooking	75 (54.0)	33. Sex	56 (40.3)
10. Crocheting	14 (10.1)	34. Singing	52 (37.4)
11. Crying	76 (54.7)	35. Sleeping	99 (71.2)
12. Dancing	51 (36.7)	36. Stretching muscles	63 (45.3)
13. Deep breathing	91 (65.5)	37. Swimming	35 (25.2)
14. Drawing	19 (13.7)	38. Taking a drive in a car	68 (48.9)
15. Eating	96 (69.1)	39. Taking care of a pet	64 (46.0)
16. Exercising	86 (61.9)	40. Talking to a friend	127 (91.4)

17. Gardening	53 (38.1)	41. Throwing something	20 (14.4)
18. Go shopping	95 (68.3)	42. Visiting a friend	97 (69.8)
19. Going to dinner	106 (76.3)	43. Watching TV	117 (84.2)
20. Going to movie	76 (54.7)	44. Walking	105 (75.5)
21. Hot shower/bath	113 (81.3)	45. Writing letters	15 (10.8)
22. Jogging	32 (23.0)	46. Writing poetry	11 (7.9)
23. Listening to music	118 (84.9)	47. Writing short stories	4 (2.9)
24. Meditating or praying	108 (77.7)	48. Yoga	31 (22.3)

Table 3 and 4 represent ranges, means, standard deviations and correlations for the observed variables in the study. As shown in table 3, the average rating for the three items on the MBI were between 1.19 – 4.89 on the scale of 0 (feeling has never been experienced) to 6 (feeling is experienced daily). On the measure of coping, average item values ranged from .50 to 1.74 on the scale of 0 (does not apply or used) – 4 (used a great deal). For questions asking how close the teachers were to their students, the mean value was 4.54 suggesting that teachers felt they kept positive relationships with their students. For the conflict domain in the teacher-student relationship, the average value was 2.10 on the scale of 1 (definitely does not apply) – 5 (definitely apply).

A correlation matrix was generated for observed composite variables included in SEM Model (Table 4). The independent variables of Emotional Exhaustion, Depersonalization, and Personal Accomplishment were significantly related to the dependent variables of Closeness and Conflict mostly at $p < .01$ level. In addition, the variables of Coping, Wishful Desire, Escape-Avoidance, Seeking Social Support, Compromising, and Desensitization were significantly related to independent variables at $p < .05$ or $p < .01$ level.

The dependent variable of Conflict and the mediator variable of Compromising was related significantly ($r = .28, p < .01$)

Table 3

Means, Standard Deviations, and Ranges for Observed Component Variables (n = 139)

Observed Component Variables	Ranges	Mean	SD
Teacher Perceived Stress			
Emotional Exhaustion	.29 – 6.00	3.15	1.45
Depersonalization	.00 – 5.00	1.19	1.06
Personal Accomplishment	1.75 – 6.00	4.89	.84
Coping			
Planful Problem Solving	.00 – 3.00	1.16	.70
Wishful Desire	.00 – 3.00	1.33	.80
Escape-Avoidance	.00 – 2.75	.50	.57
Seeking Social Support	.00 – 3.00	1.74	.76
Positive Reappraisal	.00 – 3.00	1.06	.76
Compromising	.00 – 3.00	1.00	.71
Self-Controlling	.00 – 3.00	1.32	.70
Desensitization	.00 – 3.00	1.73	.87
Teacher-Student Relationship			
Closeness	3.40 – 5.00	4.54	.40
Conflict	1.00 – 4.25	2.10	.68

Table 4
Bivariate Correlations for Variables Included in SEM Model

	EE	DP	PA	CL	CON	PPS	WD	EA	SSS	PR	C	SC	D
EE	-												
DP	.56**	-											
PA	-.04	-.17*	-										
CL	-.10	-.38**	.32**	-									
CON	.28**	.49**	-.15	-.20*	-								
PPS	.05	.08	.12	.10	-.01	-							
WD	.43**	.36**	.07	-.09	.09	.28**	-						
EA	.22**	.25**	.03	-.05	.08	.25**	.42**	-					
SSS	.06	.001	.18*	.08	-.10	.46**	.30**	.16	-				
PR	-.02	.07	.14	.01	-.02	.51**	.16	.08	.40**	-			
C	.06	.20*	-.03	.004	.28**	.33**	.21*	.07	.27**	.29**	-		
SC	.07	.13	.08	-.02	-.11	.43**	.34**	.11	.46**	.37**	.23**	-	
D	.02	.22*	.17*	-.11	.06	.46**	.40**	.20*	.47**	.45**	.28**	.40**	-

Note. EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment; CL = Closeness; CON = Conflict; PPS = Planful Problem Solving; WD = Wishful Desire; EA = Escape-Avoidance; SSS = Seeking Social Support; PR = Positive Reappraisal; C = Compromising; SC = Self-Controlling; D = Desensitization.

* $p < .05$ ** $p < .01$

Measurement Model

In the next step to examine the measurement model, items on each scale were evaluated to verify if they accurately represented the concept being measured. If an item was deemed not to best represent the latent concept, it was removed from the instrument. This screening was done at several points in the process, starting at the descriptive stage where an item was flagged due to concerns about normality. Next, scales were examined for reliability. A Cronbach's alpha was calculated for each scale to evaluate reliability. Items low ($\alpha < .4$) on reliability were flagged and/or excluded at this point. The measurement model summary for the scales is reported in Table 5. The manner in which each scale was validated is outlined in the following section.

Table 5
Measurement Model Summary

Measurement Model	No. of items	χ^2	<i>df</i>	RMSEA	CFI	GFI	Cronbach's α
Teacher perceived Stress	17	158.67	115	.05	.95	.88	.84
Coping	28	29.24	19	.06	.96	.96	.87
Teacher-student relationship	9	27.88	26	.02	.99	.96	.49

Validating Teacher Perceived Stress Measurement Model

A 17-item Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986) with three factors (emotional exhaustion, depersonalization, and personal accomplishment) was submitted to AMOS for confirmatory factor analysis. Initially, the MBI was measured by 22 items, however, lower loadings to the latent variable were dropped from the scale. Modification was made by allowing two error covariances (STRESS1 & 2; STRESS6 & 16) after recognizing that they measured the same dimension with overlapping words in the items

(Table 6). The measurement model for the 17-item scale appeared to approach an acceptable fit according to the fit indices (χ^2 (115, $N = 139$) = 158.67, $p < .05$, RMSEA = .05, GFI = .884, and CFI = .951). The path diagram for the CFA was shown in Figure .1.

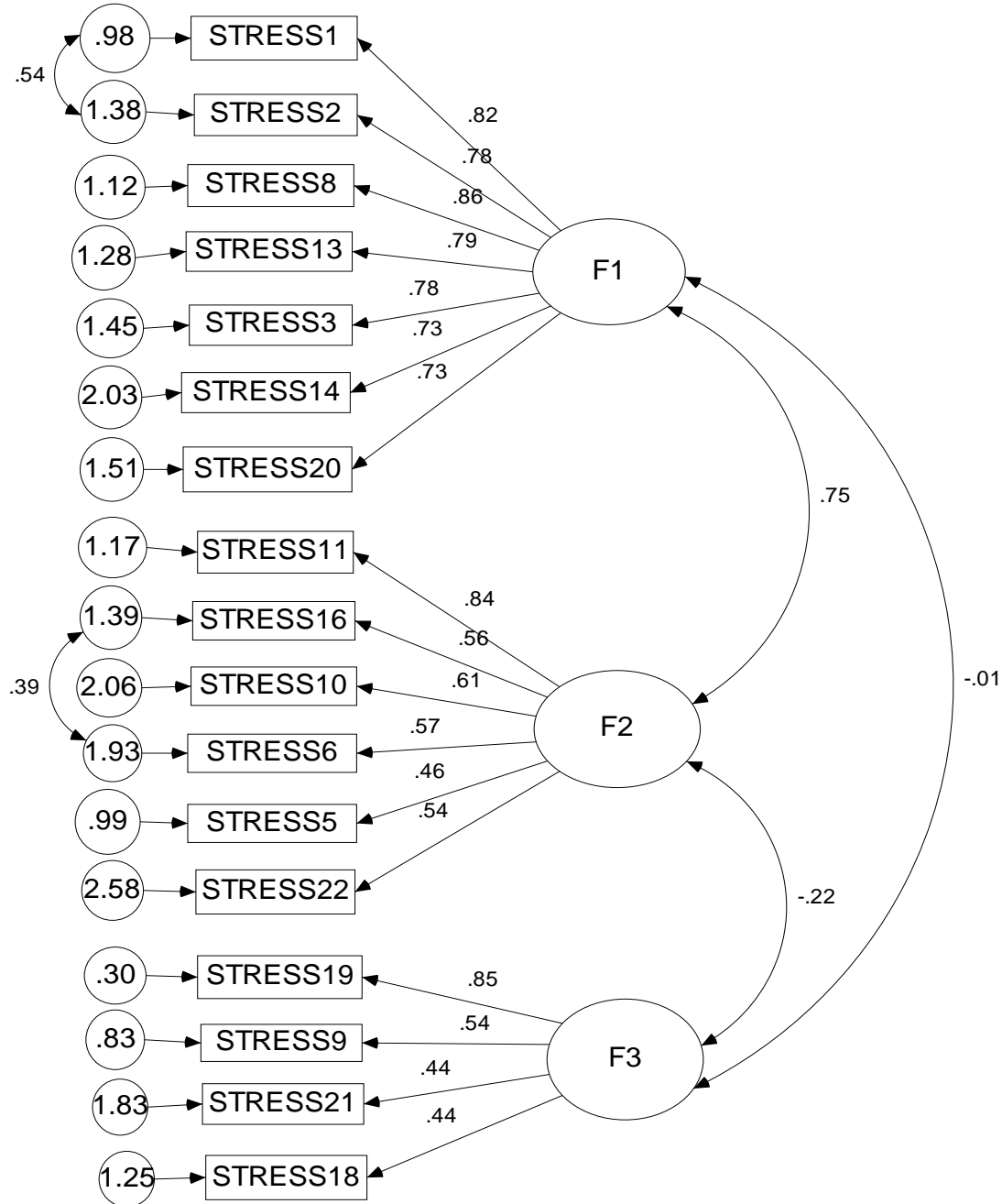


Figure 6. The CFA model for Teacher Perceived Stress
 $\chi^2 = 158.67$, $df = 115$, RMSEA = .05, GFI = .884, and CFI = .951

Table 6

Items with Strong Covariance

Items with Covariances	Modification Indices
STRESS1. I feel emotionally drained from my work.	26.653
STRESS2. I feel used up at the end of the workday.	
STRESS6. <i>Working with people</i> all day is really a strain for me.	15.911
STRESS16. <i>Working with people</i> directly puts too much stress on me.	

After the confirmatory factor analysis was validated, the latent variables of teacher perceived stress was still indicated by three factors: EE, DP, and PA. Each composite was constructed by computing the average of the items in the corresponding factors. Loading for EE ranged from .73 to .86, for DP ranged from .46 to .84, and for PA ranged from .44 to .85. The three factor model (EE, 7 items; DP, 6 items; PA, 4 items) resulting from the factor analysis yielded Cronbach's alpha estimates of .91 for Emotional Exhaustion, .73 for Depersonalization, and .62 for Personal Accomplishment, respectively.

The measurement model of MBI scale with three composite factors (EE, DP, and PA) was again submitted to AMOS for validation. During this process, one of the error variances was negative ($e_2 = -1.62$). This case is sometimes called *Heywood cases* and it indicates that something is wrong in the model, data or estimator (Chen et al., 2001). One of the solutions recommended was constraining the error variance to zero or a small positive number (Chen et al., 2001, p 504). Therefore, after constraining the e_2 error variance to zero, the factor loadings ranged from -.17 to 1.00 (Figure 7). The fit for the measurement model was good ($\chi^2(1, N = 139) = .67, p = > .05$, RMSEA = .000, GFI = .997, and CFI = 1.000).

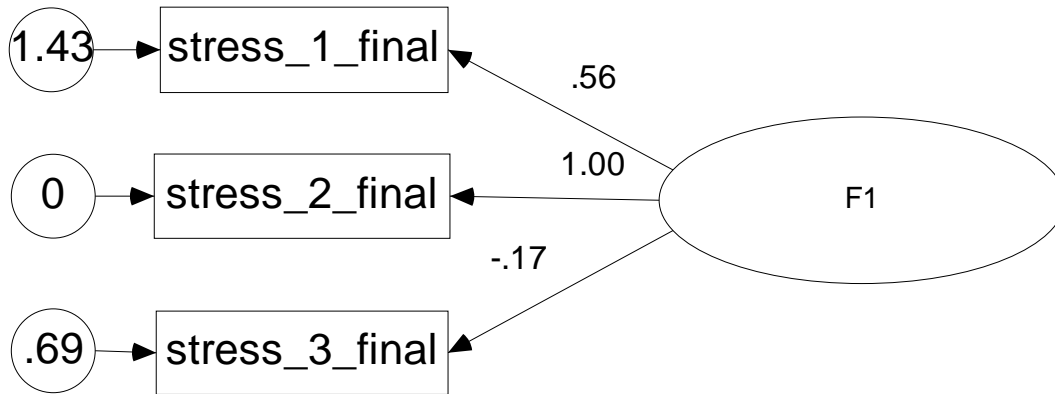


Figure 7. Measurement Model for Teacher Perceived Stress
 $\chi^2 = .67$, $df = 1$, RMSEA = .000, GFI = .997, and CFI = 1.000

Validating Coping Measurement Model

The 28-item Ways of Coping Questionnaire (WCQ; Folkman & Lazarus, 1988) with eight factors (planful problem solving, denial, escape-avoidance, seeking social support, positive reappraisal, compromising, self-controlling, and sensitization) was submitted to AMOS for confirmatory factor analysis. Initially, the WCQ was measured by 66 items, however, lower loadings on the latent variable were dropped from the scale under two conditions. First, 11 items which had loadings lower than .40 during the factor analysis were excluded from the scale. As the confirmatory model fit still remained to be problematic, the 27 items were additionally dropped from the scale based on the standardized residual covariance that were equal to or greater/smaller than (+/-) 2.00. Another modification was to allow three error covariances (C20 & C25; C19 & 42; C31 & 42) based on the modification indices (Table 7). The measurement model for the 28-item scale appeared to approach acceptable fit according to the fit indices ($\chi^2 (374, N = 139) = 579.77$, $p < .05$, RMSEA = .063, GFI = .795, and CFI = .818). The path diagram for the CFA is shown in Figure 8.

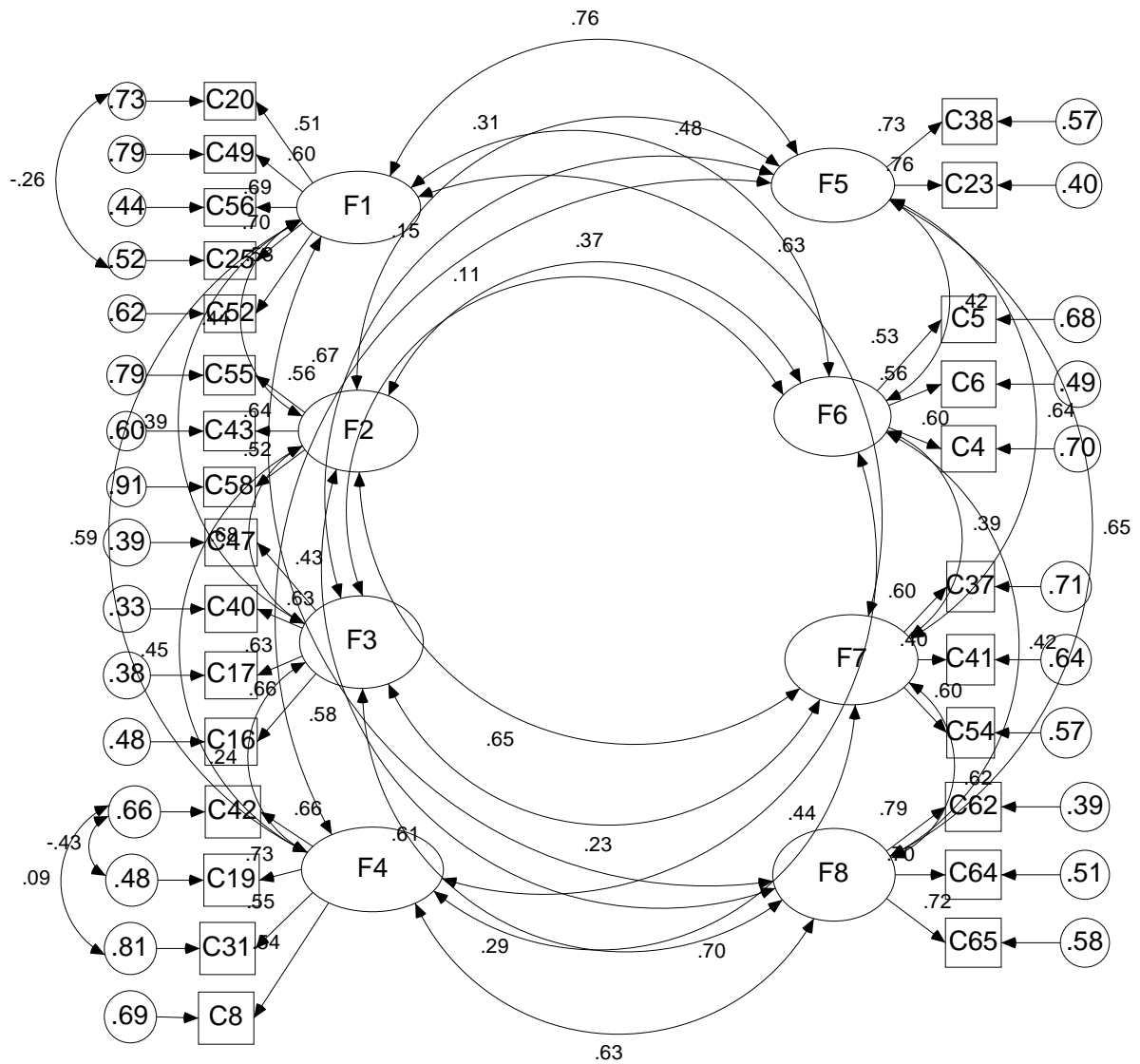


Figure 8. The CFA model for Coping
 $\chi^2 = 579.77$, $df = 374$, RMSEA = .063, GFI = .795, and CFI = .818

Table 7

Items with Strong Covariance

Items with Covariances	Modification Indices
C20. I was inspired to do something creative about the problem.	4.56
C25. I apologized or did something to make up.	
C19. I told myself things that helped me feel better.	12.91
C42. I rediscovered what is important in life.	
C31. I talked to someone who could do something concrete about the problems.	7.02
C42. I asked advice from a relative or friend I respected.	

After the confirmatory factor analysis was validated, the latent variables of coping were indicated by eight factors, however, somewhat different composites were observed. The original WCQ was comprised of the variables of Confrontive Coping, Distancing, Self-Controlling, Seeking Social Support, Accepting Responsibility, Escape-Avoidance, Planful Problem-Solving, and Positive Reappraisal. The variables in the current study were (a) Planful Problem-Solving (5 items), (b) Wishful Desire (3 items), (c) Escape-Avoidance (4 items), (d) Seeking Social Support (4 items), (e) Positive Reappraisal (3 items), (f) Compromising (3 items), (g) Self-Controlling (3 items), and (h) Desensitization (3 items). Each composite was constructed by computing the average of the items in the corresponding factors. Loading for Planful Problem Solving ranged from .51 to .70, for Wishful Desire ranged from .52 to .64, for Escape-Avoidance ranged from .43 to .66, for Seeking Social Support ranged from .54 to .73, for Positive Reappraisal ranged from .73 to .76, for Compromising ranged from .53 to .60, for Self-Controlling ranged from .40 to .60, and for Desensitization ranged from .70 to .79 accordingly. The internal consistencies of the WCQ

were .87 for the whole scale and .74 for Planful Problem-Solving, .60 for Wishful Desire, .68 for Escape-Avoidance, .70 for Seeking Social Support, .65 for Positive Reappraisal, .57 for Compromising, .55 for Self-Controlling, and .78 for Desensitization.

The measurement model for the WCQ scale with the eight composite factors was resubmitted to AMOS for validation. Loadings for the eight composite factors ranged from .24 to .71 (Figure 9). Modification was made based on how the dimensions of WCQ (Folkman & Lazarus, 1988) overlapped. The error covariance between COPE2 and COPE3 (Modification Index = 17.080) was made as they both contained items from the Escape-Avoidance dimension in the original WCQ scale. The fit for the measurement was good (χ^2 (19, $N = 139$) = 18.38, $p > .05$, RMSEA = .000, GFI = .969, and CFI = 1.000).

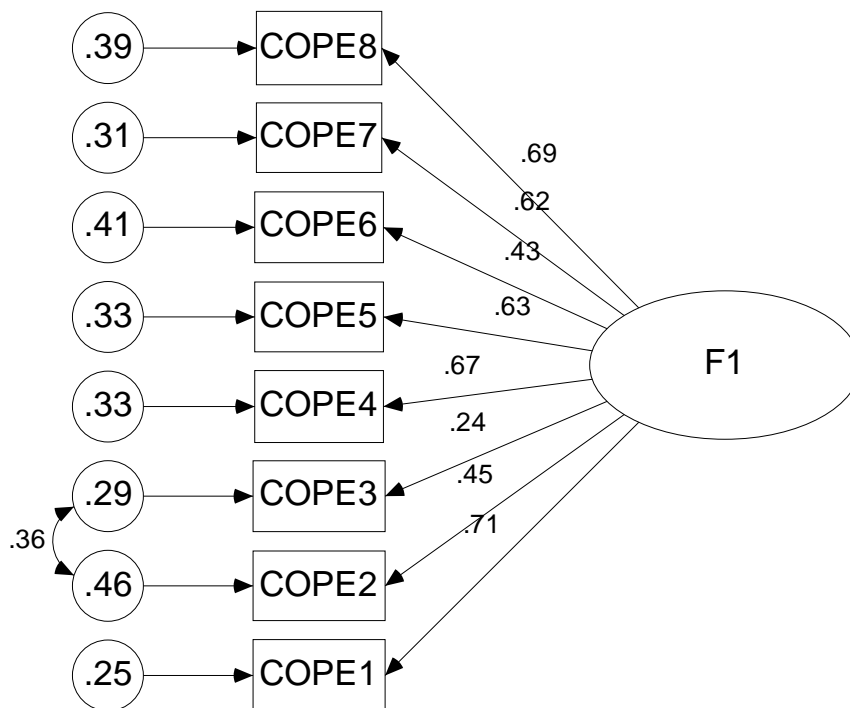


Figure 9. Measurement Model for Coping
 $\chi^2 = 18.38$, $df = 19$, RMSEA = .000, GFI = .969, and CFI = 1.000

Validating the Teacher-Student Relationship Measurement Model

A 9-item Student-Teacher Relationship Scale (STRS; Pianta, 1992) with two factors (closeness and conflict) was submitted to AMOS for confirmatory factor analysis. The STRS was initially measured by 15 items, however, lower loadings on the latent variables resulted in items being dropped from the scale. The measurement model for the 9-item scale appeared to approach acceptable fit according to the fit indices ($\chi^2 (26, N = 139) = 27.88, p > .05$, RMSEA = .023, GFI = .955, and CFI = .992). The path diagram for the CFA was shown in Figure 10.

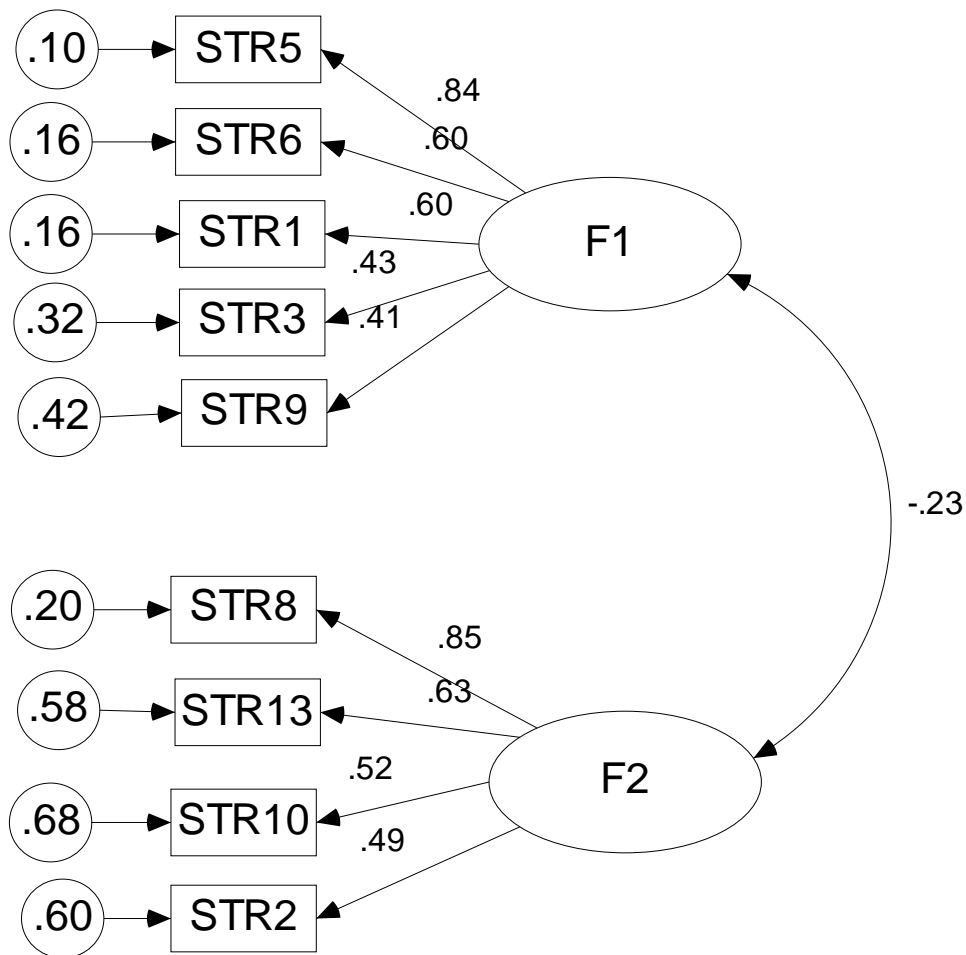


Figure 10. The CFA model for Teacher-Student Relationship $\chi^2 = 27.88$, $df = 26$, RMSEA = .023, GFI = .955, and CFI = .992

Each composite was constructed by computing the average of the items in the corresponding factors. Loading for Closeness ranged from .41 to .84, and for Conflict ranged from .49 to .85. The internal consistency of the STRS was defined by alpha coefficients of .49 for the whole scale, .70 for Closeness (5 items) and .71 for Conflict (4 items).

TESTING HYPOTHESES

Hypothesis 1:

The first hypothesis stated that teacher perceived stress will have a significant effect on teacher-student relationship.

The Structural Equation Model was analyzed using AMOS to test the direct effect between perceived teacher stress and the teacher-student relationship (Figure 11). Table 8 illustrates the results of goodness of fit indices. In the analysis, one of the error variances was negative ($e^2 = -.087$), therefore, the error variance was fixed to zero (Chen et al., 2001, p 504). In this structural model, the p -value of the Chi-square (χ^2) was less than .05, indicating that the model did not fit the data adequately ($p = .008$). In addition, the RMSEA index of .124 was greater than .06, suggesting a poor fit in the structural model. Except for the Chi-square and RMSEA indices, other fit indices in this structural model displayed a reasonable fit. The standardized estimates of the paths are summarized in Table 9. The standardized estimate of the direct effect of teacher perceived stress on the teacher-student relationship was statistically significant (Standardized Estimate = $-.95$, $p < .001$).

Table 8

Goodness of Fit Indices of the Structural Equation

Fit Indices	Values	Interpretation
χ^2	15.60	Not adequate fit
df	5	
RMSEA	.124	Not adequate fit
GFI	.913	Acceptable fit
CFI	.957	Good fit

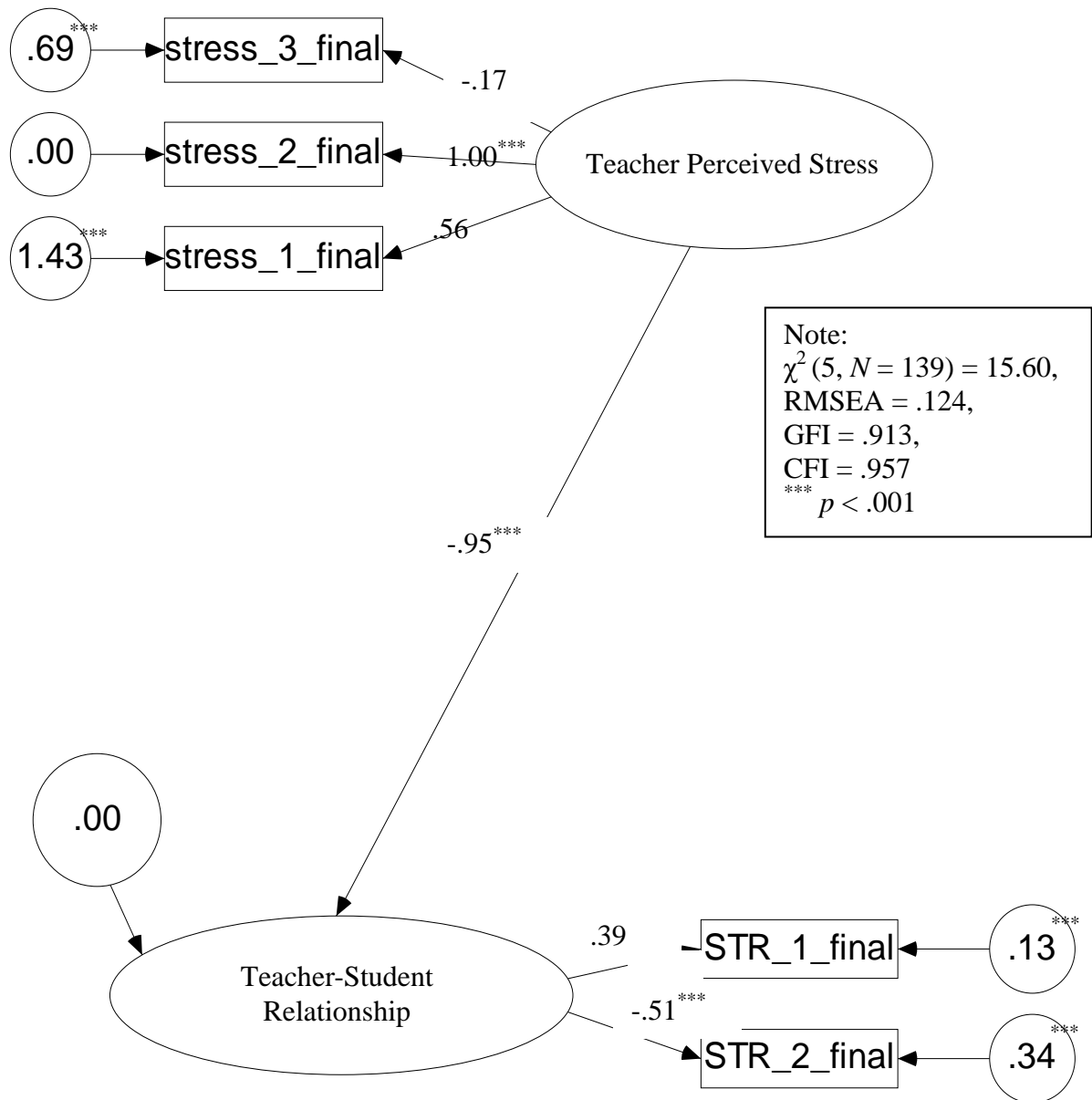


Figure 11. Direct Effect of Teacher Perceived Stress on Teacher-Student Relationship

Table 9

Standardized Parameter Estimates for Structural Equation Model

Regression Weights		Standardized Parameter Estimates
TSR	←--- STRESS	-.95***
EE	←--- STRESS	.56
DP	←--- STRESS	1.00***
PA	←--- STRESS	-.17
CL	←--- TSR	.39
CON	←--- TSR	-.51***

Note: TSR = Teacher-Student Relationship; STRESS = Teacher Perceived Stress; EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment; CL = Closeness; CON = Conflict

 $p < .001$

Hypothesis 2:

The second hypothesis stated that teacher perceived stress will have a significant effect on coping. The Structural Equation Model was analyzed using AMOS to test the direct effect between teacher perceived stress and coping (Figure 12). Table 10 illustrates the results of goodness of fit indices. Another *Haywood case* was found during the analysis in that one of the error variances was negative ($e9 = -1.34$). It was, therefore, fixed to zero for further analysis (Chen et al., 2001, p 504) and modification was made to allow two error covariances (Wishful Desire & Escape-Avoidance; Wishful Desire & Positive Reappraisal) in the model. These three dimensions share common dysfunctional coping strategies as they either wish that the situation would go away or display mental/behavioral disengagement from the stressful situation. Larazus and Folkman (1984) regarded positive reappraisal as a passive coping style in that, instead of the dealing with the stress, the person aims to manage emotions caused by the stressful event.

Table 10

Goodness of Fit Indices of the Structural Equation Model

Fit Indices	Values	Interpretation
χ^2	73.89	Not adequate fit
df	42	
RMSEA	.074	Acceptable fit
GFI	.918	Acceptable fit
CFI	.907	Acceptable fit

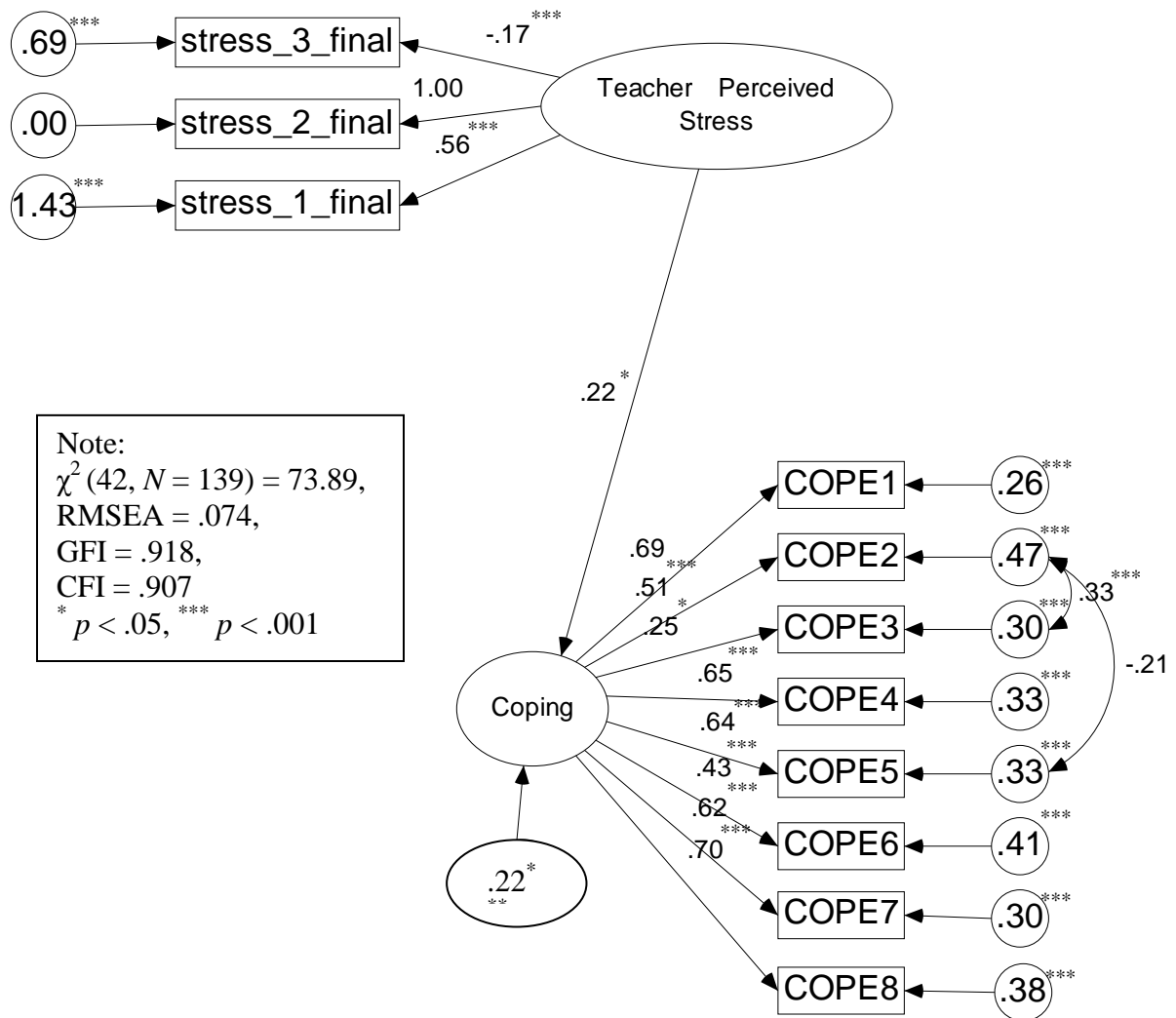


Figure 12. Direct Effect of Teacher Perceived Stress on Coping

In this structural model, the p -value of the Chi-square (χ^2) was less than .05, indicating that the model did not fit the data adequately ($p = .002$). Other fit indices in this structural model suggested a reasonable fit (Table 10). The standardized estimates of the paths are summarized in Table 11. The standardized estimate of the direct effect of teacher's perceived stress on coping was statistically significant (Standardized Estimate = .22, $p < .05$).

Table 11

Standardized Parameter Estimates for Structural Equation Model

Regression Weights			Standardized Parameter Estimates
Coping	←---	STRESS	.22 [*]
PPS	←---	Coping	.69
WD	←---	Coping	.51 ^{***}
EA	←---	Coping	.25 ^{***}
SSS	←---	Coping	.65 ^{***}
PR	←---	Coping	.65 ^{***}
C	←---	Coping	.43 ^{***}
SC	←---	Coping	.62 ^{***}
D	←---	Coping	.70 ^{***}
DP	←---	STRESS	1.000
PA	←---	STRESS	-.17 [*]
EE	←---	STRESS	.56 ^{***}

Note: STRESS = Teacher's Perceived Stress; PPS = Planful Problem Solving; WD = Wishful Desire; EA = Escape-Avoidance; SSS = Seeking Social Support; PR = Positive Reappraisal; C = Compromising; SC = Self-Controlling; D = Desensitization; EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment; CL = Closeness; CON = Conflict

* $p < .05$ *** $p < .001$

Hypothesis 3

The third hypothesis stated that teacher perceived stress will have a significant effect on teacher-student relationship, mediated by coping.

The Structural Equation Model was analyzed using AMOS to test the mediation effect of coping between perceived teacher stress and the teacher-student relationship (Figure 13). Table 12 illustrates the results of goodness of fit indices. As in previous models, one of the error variances was negative ($d1 = -.21$), therefore, fixed to zero for further analysis (Chen et al., 2001, p 504). In addition, the same modification to the structural model was

made in the observed variables in coping. An extra error covariance (Emotional Exhaustion & Depersonalization) was allowed in this structural model. Gold et al., (1989) reports that Item 11 (*I worry that this job is hardening me emotionally*) tends to load on the Emotional Exhaustion and Depersonalization factors simultaneously. Furthermore, in EFA and CFA analyses, Item 11 loaded on Emotional Exhaustion when it was theoretically related to the Depersonalization dimension when the scale was tested with 631 elementary school teachers (Aluja et al., 2005).

Table 12

Goodness of Fit Indices of the Structural Equation Model

Fit Indices	Values	Interpretation
χ^2	115.18	Not adequate fit
<i>Df</i>	61	
RMSEA	.080	acceptable fit
GFI	.894	Not adequate fit
CFI	.870	Not adequate fit

In this structural model, the *p*-value of the Chi-square (χ^2) was less than .05, indicating that the model did not fit the data adequately ($p < .001$). Only the RMSEA index of the structural model provided support for a reasonable fit (Table 11). The standardized estimates of the paths are summarized in Table 13. The direct effect of teacher perceived stress on the teacher-student relationship was statistically significant (Standardized Estimate = -1.04, $p < .05$), but the indirect effects of teacher perceived stress mediated by coping was not. This result indicated that, coping was not a mediator of teacher perceived stress on the teacher-student relationship (Hoyle, 1995). Hypothesis 3 in this study was, therefore, not supported.

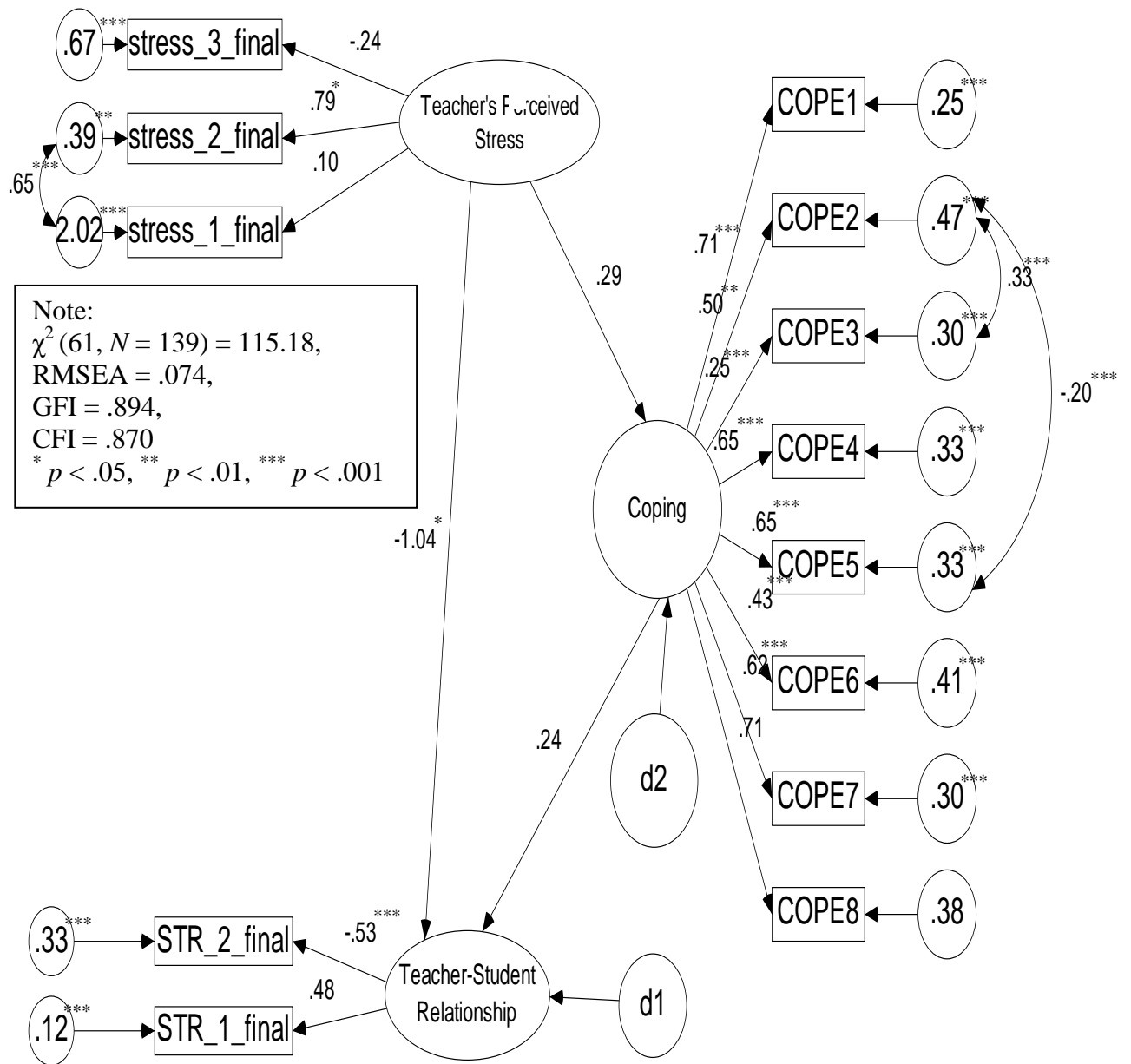


Figure 13. Mediation Effect of Coping in Structural Equation Model

Table 13

Standardized Parameter Estimates for Structural Equation Model

Regression Weights		Standardized Parameter Estimates
Coping	←--- STRESS	.29
TSR	←--- STRESS	-1.04*
TSR	←--- Coping	.24
EE	←--- STRESS	.10*
DP	←--- STRESS	.79
PA	←--- STRESS	-.24
PPS	←--- Coping	.71
WD	←--- Coping	.50***
EA	←--- Coping	.25**
SSS	←--- Coping	.65***
PR	←--- Coping	.65***
C	←--- Coping	.43***
SC	←--- Coping	.62***
D	←--- Coping	.71***
CL	←--- TSR	.48
CON	←--- TSR	-.53***

Note: STRESS = Teacher's Perceived Stress; TRS = Teacher-Student Relationship; PPS = Planful Problem Solving; WD = Wishful Desire; EA = Escape-Avoidance; SSS = Seeking Social Support; PR = Positive Reappraisal; C = Compromising; SC = Self-Controlling; D = Desensitization; EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment; CL = Closeness; CON = Conflict

* $p < .05$ ** $p < .01$ *** $p < .001$

CHAPTER 5

DISCUSSION

Overview

The focus of this study was on the role of coping as a potential mediator of teacher perceived stress on teacher-student relationship. Studies that have examined how psychological factors such as stress affected the teacher's relationship with students have been scarce in educational research. Literature on teacher-student relationships from the students' perspective is abundant. Knowing the significant role that the teacher plays in each child's life, the need for the current study is essential. This study was conducted to examine the direct effects between teacher perceived stress and teacher-student relationship and between teacher's perceived stress and coping. Furthermore, the mediating effect of coping was examined with Structural Equation Modeling in AMOS. Following a review of the findings, implications, limitations, and suggestions for future studies are proposed.

Global Fit Assessments

In this study, there were six evaluations of global fit assessment (e.g., 3 measurement models and 3 structural equation models). Among them, several were unable to satisfy the "cutoff criteria" of: χ^2 (df, *N*) = Not Significant, RMSEA < .06, and CFI & GFI > .95 (Hu & Bentler, 1999). For example, in the measurement model for teacher perceived stress, although the fit indices for RMSEA and CFI were satisfied (RMSEA = .05 & CFI = .951), the GFI fit index was .884, indicating a poor fit. Furthermore, in the structural equation

model for testing a direct effect of teacher's perceived stress on teacher-student relationship, only the CFI fit index suggested a good fit ($\chi^2(5, N = 139) = 15.60, p < .001$, RMSEA = .124, GFI = .913, and CFI = .957).

In the current study, the minimal amount of modification was considered in order to preserve the nature of representation of the samples. In addition, when evaluating the adequacy of a model, researchers need to be cautious of solely relying on global fit assessments (Marsh et al., 2004; Marsh et al., 2005; Tomarken & Waller, 2003; Steiger, 2007).

Even with “well fitting” models, there can be problems (Tomarken & Waller, 2003). First, proposed models can have good global assessment fit indices; however, that does not mean that the model is ‘correct’. Rather, it can be inferred that the model is “one plausible representation of the underlying structure from the larger pool of plausible models” (Tomarken & Waller, 2003, p580). Second, there are also alternative and nonequivalent models that may have similar or better satisfying global fit indices. Third, variables could be omitted that in reality have implications and need to be interpreted.

In addition, the standard cutoff points for rejecting weak models may be strict for some aspects of research and may not result in over-acceptance of weak models (Marsh et al., 2004; Marsh et al., 2005) This implies that the golden rule proposed by Hu and Bentler (1999) cannot be used as a general rule for global fit assessment.

Specifically, one of the absolute measures of fit, Root Mean Square Error of Approximation (RMSEA), is a fit index based on the non-centrality parameter. According to Hu and Bentler (1999), a model is considered a good fit when RMSEA is less than .06. On the other hand, Barrett (2007) argues that when the sample size is less than 200, interpreting

the RMSEA index is meaningless. Researchers critique Barrett's position and explain that the current standard for global fit indexes was considered too strict when justifying weak structural equation models (Steiger, 2007; Markland, 2007). In addition, greater sampling error occurs when degrees of freedom and sample sizes are small, thus resulting in a high value of the RMSEA (e.g., $\chi^2(5, N = 139) = 15.60, p < .001$, RMSEA = .124).

Taken as a whole, the global fit assessment plays a fundamental role in evaluating whether the hypothetically constructed model conveys statistically meaningful information to enhance understanding of the psychological characteristics in the real world. However, it is also important to remember that imperfect fit of a model does not mean failure of the model as it could still play an important role. Thus, although the six models in the current study showed mixed adequacy of global fit indices, interpretation and implications can be drawn based on the results.

Direct Effect Models

The first hypothesis examined the direct effect relationship between teacher perceived stress and teacher-student relationships. In support of the question, the findings indicated that teacher perceived stress negatively predicts teacher-student relationship (parameter estimate = $-.95, p < .001$). Among limited research studies that have examined the relationship between teacher perceived stress and teacher-student relationship, Yoon (2002) has looked at the predictability of teacher perceived stress on the quality of teacher-student relationship using hierarchical regression analyses. In her study, teacher reported stress predicted about 10 % of the variance of the quality of the relationship of teachers with their students ($p = .001$).

Moderate relationships were found between Emotional Exhaustion ($r = .28, p < .01$)

and Depersonalization ($r = .49, p < .01$) and Conflict between teacher-student relationship (Table 4). This may suggest that teacher perceived stress enhances display of inappropriate negative affect, which may cause conflict in teacher-student relationship. For example, teachers who experience high levels of stress in class may express anger or hostility toward their students, therefore, jeopardizing or placing their teacher-student relationship at risk. Further, Depersonalization ($r = -.38, p < .01$) and Personal Accomplishment ($r = .32, p < .01$) were correlated with closeness in teacher-student relationship. This may mean that if teachers have a positive sense of personal accomplishment, then teacher-student relationships are more likely to be affected positively.

The results also support hypothesis 2 which examined the direct effect of teacher perceived stress on coping. This is based on the findings that teacher perceived stress positively predicted coping (parameter estimate = .22, $p < .05$). Specifically, Emotional Exhaustion and Wishful Desire ($r = .42, p < .01$), and Emotional Exhaustion and Escape-Avoidance ($r = .22, p < .01$) were positively correlated. Similarly, Depersonalization and Wishful Desire ($r = .36, p < .01$) and Depersonalization and Escape-Avoidance ($r = .25, p < .01$) were also positively correlated (Table 4). Both Wishful Desire and Escape-Avoidance dimensions were comprised of statements that describe teacher's passive ways of coping rather than dealing with the problems actively. For example, teachers reported that they generally avoided being with others or wished that the stressful situation would go away or somehow be dealt with. Austin et al. (2005) and Chan and Hui (1995) reported similar findings in their research. Teacher's distress scores were significantly correlated with Escape-Avoidance with teachers using more Escape-Avoidance coping behaviors as their stress level increased. The maladaptive behaviors used by teachers were more likely to be related to three

components of burnout (e.g., Emotional Exhaustion, Depersonalization, and Personal Accomplishment).

Indirect Effect Model (Mediation Effect)

Before going into the main analysis for the indirect effect model, it should be pointed out that the standardized path coefficient for direct effects between teacher perceived stress and teacher-student relationship was -1.04. Deegan (1978) stated that, although rare, such coefficients can legitimately occur and may occur more often in the presence of strong multicollinearity. He further explained that there was not a need to modify the model due to this reason as there might be an increased risk of biasing effects of model specification error. In keeping with Deegan's recommendation, the structural equation model remained the same.

Hypothesis 3 examined the indirect effect of coping as a mediator with teacher perceived stress as the independent variable and teacher-student relationship as the dependent variable. In the Structural Equation Model for testing hypothesis 3 (Figure 13), neither the path coefficient of the direct effect (e.g., Teacher-Student Relationship \leftarrow Teacher Perceived Stress) became close to '0' nor could the coping predict the teacher-student relationship (Hoyle, 1995). Coping was not a mediator in this particular structural model. Overall, there were no relationships between coping and teacher-student relationship except Compromising and Conflict ($r = .28, p < .05$). It may be that when teachers feel stressed by students, they may compromise the situation to get something positive from it. This would be similar to the relationships between teacher perceived stress and their tendency to use Avoidance-Escape coping skills (Austin et al., 2005; Chan & Hui, 1995). When there is a conflict between a teacher and student, instead of dealing with it or solving the problem directly, the teacher may be more likely to compromise the situation.

Limitations

There are a number of limitations to this study and the findings. First, methodologically, some of the measurement models, coping in the study did not satisfy the goodness of fit indices that are generally accepted in the current research field. Although such guidelines are not absolute they are important to follow. For example, when interpreting the results, caution is necessary. In addition, the unsatisfying goodness of fit indices could be due to lack of sensitivity of the WCQ instrument as its content focused on the individual teacher's ways of coping stress in the daily life outside the work rather than inside of the classroom. Furthermore, in the domains of dependent variable (e.g., closeness and conflict), 'closeness' did not have much to explain for having a low variance which resulted a weak correlation. A different result may have been found if 'conflict' alone was a dependent variable, since the core purpose of coping as a mediator was to reduce the conflict in the teacher-student relationship.

Next, the study relies on nonprobability sampling method which used a subset of the population to represent the whole population. In this case, the participants in the study were almost all female (95%) and Caucasian (85.5%), limiting generalization of the sample. A related limitation to generalization was that the study was done in a rural school system. A third limitation was that a cross-sectional data collection approach was employed during the months of April and May. Since that time of data collection was close to the End-of-Grade examinations, teachers were likely under a lot of stress and pressure. This could have affected the results in both directions with the reports of some teachers reflecting stress at that time. On the other hand, for teachers who may have used the Escape-Avoidance coping skills under stressful situations (Austin et al., 2005; Chan & Hui, 1995), there could be a risk that

the data did not measure what the researcher intended. For example, some teachers may have hurried when completing the questionnaires just to complete them and end their day as the data collection occurred after school.

Lastly, due to the correlation-based characteristics of Structural Equation Modeling, no causal interpretations can be drawn from the current data. Future research may need to apply the use of other statistical analyses to examine the impact of teacher's responses to stress on student-teacher relationship.

Implications and Future Research

This study was based on the researcher's recognition of the significance of teacher-student relationships in educational settings and the lack of empirical support for the teacher's perspectives on that relationship. Spilt et al. (2011) emphasized the importance to study teacher-student relationships from how they influence the professional and individual lives of teachers. This study contributes important empirical observations to studies on the area of teacher-student relationships research.

First, it was found that teacher perceived stress affects the quality of the teacher-student relationship negatively. It can be inferred that teacher perceived stress further impacts not only teachers but also the psychological well-being of students. It is not surprising when teachers' emotions are linked to their relationship with their students, emotional experiences, and coping strategies (Chang & Davis, 2009), therefore, finding ways to decrease the psychological burden on teachers may improve their relationships with students. In addition, emotionally healthy teachers are likely to have a positive impact in the classroom (Jennings & Greenberg, 2009) and students are more likely to learn prosocial values, high self-

awareness, and cultural sensitivity from their teachers.

Second, coping was not found to be a mediator of teacher perceived stress on teacher-student relationship based on the results of this study. Future research needs to focus on what would be a potential mediator or moderator for the relationship between teacher perceived stress and teacher-student relationships. For example, teacher's competence (e.g., social competence or social skills) is found to have close connection between teacher perceived stress and teacher-student relationship (Howes, 2000; Baloglu, 2008; Griggs et al., 2009; Rice et al., 1997).

Finding a mediator or moderator in models of teacher stress is an essential research that teacher stress seems inevitable in the teacher's career. However, if there is something that can help to reduce it, both teachers and students may benefit. Knowing that there is lack of empirical research to support the psychological well-being of teachers, more effort should be made to understand the psychological demands faced by educators. Ultimately, this will be a win-win strategy, wisdom to confront some of the real world problems, in the education as well as mental health field.

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